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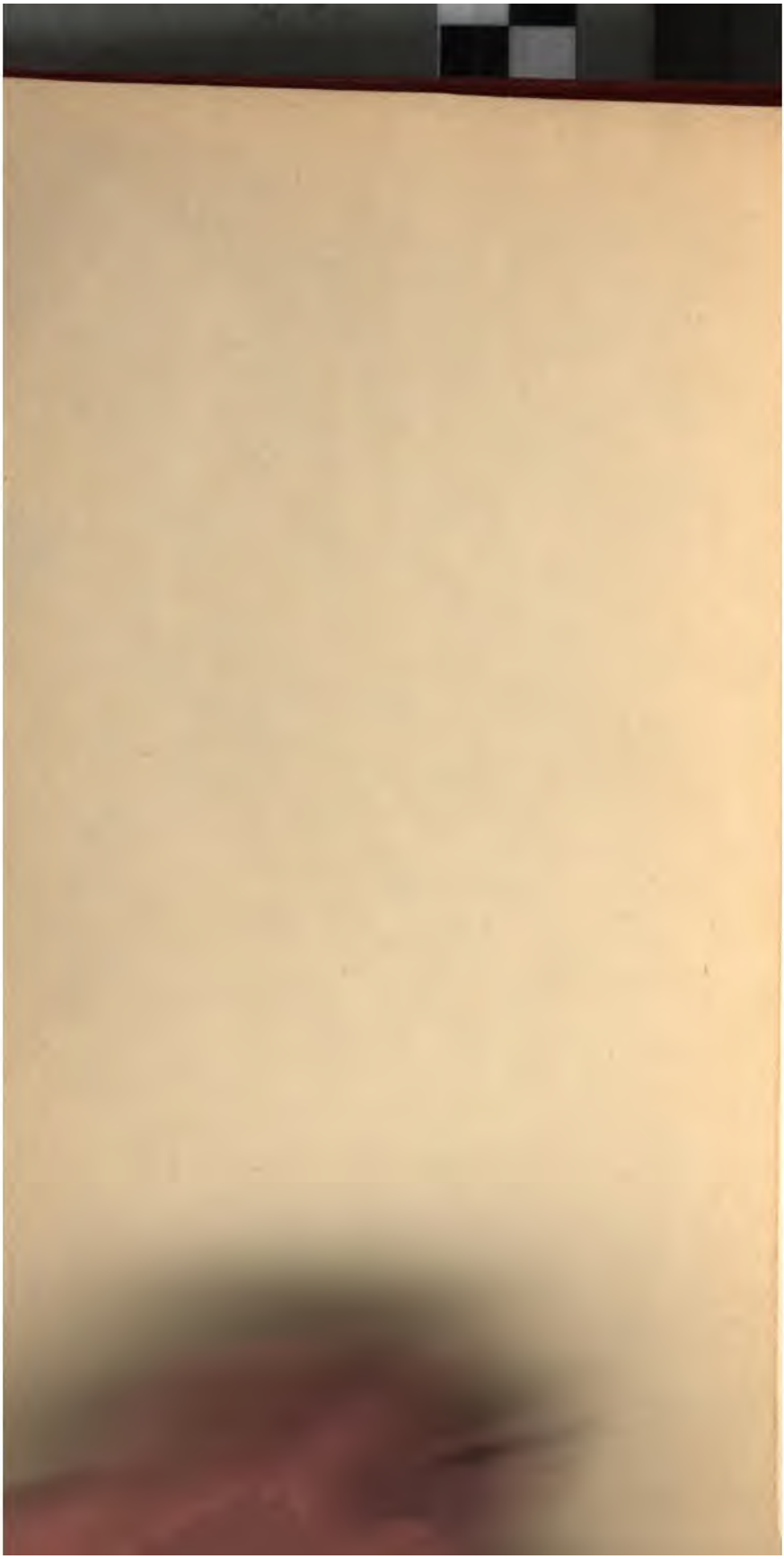
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EIGHTEENTH

ANNUAL REPORT

OF THE

TRUSTEES

OF THE

PHILADELPHIA GAS WORKS.

TO THE

SELECT AND COMMON COUNCILS OF THE
CITY OF PHILADELPHIA.

JANUARY 28, 1853.

PHILADELPHIA:
PRINTED BY L. R. BAILEY, 26 NORTH FIFTH ST.
1853.

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REPORT.

TO THE SELECT AND COMMON COUNCILS
OF THE CITY OF PHILADELPHIA:

THE Trustees of the Philadelphia Gas Works present the following report of their proceedings, and of the business, and the results thereof, for the year 1852.

It is the eighteenth record, of the working of an establishment of peculiar interest to our citizens, and the remarkable and steady success of the enterprize, fully attests the wisdom and propriety of the municipal provisions, under which it derives its powers and usefulness.

Under its well organized and systematic arrangements in the financial and manufacturing departments, there are no striking novelties to record; year by year witnesses an increase of manufacture, and the receipts in money bear their proper proportion to the products yielded from the Works, and the prices charged for them to our customers.

Thus it will be perceived, that although our actual production of gas, &c., in the year 1852, was considerably greater than in 1851, the receipts in money were less; the difference being fully accounted for by the fact that the price charged for gas to private customers, was $2 25 per thousand cubic feet in 1851, and only $2 in

1852; a discount of five per cent. being allowed for prompt payment in both years. The reduction of price, which took effect on and after January 1, 1852, for gas thereafter produced and delivered to our customers, was therefore equal to $23\frac{75}{100}$ cents per thousand cubic feet. This deduction, really distributed among the customers of the Works the sum of $38.022 11, being the difference in the price of the applied to 160,093,100 cubic feet, the qu to private burners in the year 1852.

Such a reductio been felt in the annual settlement of our p amount carried to the credit of the Co , is only $16,468 38, instead of $30,00 r sum is the amount intended to be raise ofits, and to be applied, in addition to any sums authorized to be borrowed, for the enlargement of the Works, and for extraordinary repairs and renewals.

It is quite probable, that the sum applicable to the credit of the Contingent Fund, will be less for the year 1853, than it has proved to be for 1852, as the amount chargeable for interest on the loans, and the appropriations to the Sinking Fund, will be larger in 1853, owing to the investment in the construction of the new Works at Point Breeze, and in the large main connecting them with the City, which will reach the maximum point of unproductiveness in the autumn of the present year, and these charges upon the profits cannot be estimated to be balanced by a fair expectation of an increased business.

The first section of the new Works will be completed and be in use by the 1st of December next, and thereafter the Contingent Fund may be expected to take its usual credit of about $30,000 per annum, unless some

change should take place, altering the present financial basis of the Gas Works.

The amount expended on the new Works, and the great connecting main, is about $210,000, and the interest on this sum, and the appropriation ordered by ordinance, to the Sinking Fund on the loan that represents it, make a charge of $21,000 per annum against our profits, and to be met by our present completed arrangements and business.

Assuming that such was really the case, and it is believed to be within, rather than beyond the truth for the sum represented by capital on which the Works had no return for the year 1852, we should have had $37,463 38 as the profits applicable to the Contingent Fund from the business of 1852, notwithstanding the deduction of $38,022 11, in the price of gas supplied to our private customers.

This leaves out of the estimate, the reduction in the price charged to the Districts of Moyamensing and West Philadelphia, and also a somewhat enlarged consumption of gas in the public lamps of the City, without any increase in the price paid per lamp per annum.

The Report of the Engineer, contains a full and lucid statement of all the details of the manufacture, and the progress made in the construction of the new Works; and the money accounts, with the usual statistical tables, will place before your bodies and the public, not only the particular business of the year, but an interesting comparative exhibit of the rapid growth of the concern under our charge. That growth may be very strikingly illustrated by the fact, that the quantity of gas made at the Works in 1852, was thirty-three times as much as that made in 1836, or as 216,216,000 cubic feet are to 6,481,300 cubic feet.

Another gratifying fact, is found in the public and private benefits derived from such a growth; the price charged for the public lights was $4 66¾ per thousand cubic feet in 1836, and for private lights $3 32½: the price of 1852 is about $1 per thousand to the public, and $1 90 to the private: the difference on such a consumption as we had from both these classes in 1852, would be giving a yearly saving to the public of $25,377 89, and to the private customers of $68,039 56, or a total of $93,417 45.

As compared with this, the reduction of the price of gas in the other cities and towns of the United States, since 1836, has been very small, and all the investigations of the subject, which we have been able to make, tend to prove that, taking as a basis the cost of the essential material for the manufacture (coal), and the price of labour, and other matters which enter into the cost of production in Philadelphia, it may be safely affirmed that in no other place is the customer supplied with gas of the same quality, for the same price.

The Report of the Engineer states the progress made in the construction of the new Works: from an estimate made by him, it seems quite certain that the parts originally designed to form the first section, will be completed within the sum originally calculated, notwithstanding the difficulties encountered in getting a proper foundation for the walls of the tank for the large gas-holder, the increased size of both tank and gas-holder, so as to give a capacity of 1,800,000 cubic feet instead of 1,000,000 cubic feet, and the enlargement of the wharf on the Schuylkill, which now has a front of 400 feet instead of 150 feet, as originally contemplated.

Agreeably to the authority given by your resolution of the 2d December, 1852, the property late of Mr.

Charles Mercier, known as the "Golden Swan" estate, and lying between the two tracts of land originally purchased as a site for the new Works, was taken from the parties who had bought it at the public sale, and at the price given by them. The proper conveyances have been made to the corporation for it, and are duly recorded. The land thus obtained gives, with the previous purchases, a continuous river front on the Schuylkill of about 1475 feet, admirably located for the various purposes of the Works; out of which a sufficient quantity may be set apart for them, and the remainder may be sold, or let on ground rent, at such time as may be deemed most advantageous for the City. The Board of Trustees would recommend the subject of such a disposition of a part of the property, to the early attention of Councils, as there seems to be little doubt that a portion of it would be taken up by individuals, and be properly improved by the erection of dwellings, &c., for the accommodation and supply of the workmen and their families, who will be employed at the new establishment in the course of the coming autumn.

BY ORDER OF THE TRUSTEES.

F. FRALEY, *President.*

Attest:

WILLIAM FENNELL, *Register.*

THE ENGINEERS' REPORT.

TO THE TRUSTEES OF [illegible]A GAS WORKS:

GENTLEMEN:

On the completion [illegible]ual term of operations at the Philadelphia Gas [illegible]lersigned respectfully presents to the Trustees his [illegible] Annual Report.

At no former period has the course of its affairs been more regular or more satisfactory in all departments.

By using to the best advantage the lots of ground obtained last year from the City corporation and its lessees, and also the space which has been added by filling in the old docks and canal basin, it has been practicable to arrange the storage of coals in such a manner as to obviate in great measure the tendency to spontaneous ignition, and for the first time in many years our coals have been entirely exempted from this destructive agency.

As a natural consequence, the records of manufacture show considerable improvement in the yield, for while the quantity of gas made has increased by nearly sixteen millions of cubic feet, the coal used is less by almost nineteen thousand bushels.

In some other respects a no less gratifying improvement has been experienced; the coke used under the retorts being diminished to the extent of eighty-six thousand bushels, and the lime to that of fifteen thousand bushels.

The gain in the two last named items is attributable chiefly to improvements in setting and working the retorts and to the enlargement of purifying surface reported last year as having

been just completed, with an expectation then entertained of deriving the advantages now realized.

A condensed view of the various operations of the year is given in the following abstract from the general accounts, of which a more detailed exhibit will be found in the tabular statements appended in the usual form.

Coal in store January 1, 1852, -	241,787	Bushels.
" bought in 1852, -	875,756	"
	1,117,543	"
Coal carbonized in 1852, -	680,792	"
" in store January 1, 1853, -	436,751	"
	1,117,543	
Coke on hand January 1, 1852,	60,500	"
" made in 1852,	855,512	"
	916,012	"
Coke used under retorts, - -	450,832	"
" " in offices and yard, -	13,500	"
" " at new Works, -	33,450	"
" sold, - - - -	295,230	"
Stock on hand January 1, 1853,	123,000	"
	916,012	"
Lime used in purifiers, - -	49,149	"

The gas made during the year is two hundred and sixteen millions two hundred and sixteen thousand cubic feet, which added to previous manufacture, makes an aggregate from the commencement of the Works, of fourteen hundred and fourteen millions nine hundred and seventeen thousand cubic feet.

The increase of make over the previous year is fifteen mil-

lions three hundred and seventy-four thousand feet; nearly all of which occurred in the last quarter of the year, the comparison of the early months of the two years being affected by the withdrawal of the supply to the District of Spring Garden in May, 1851.

In the month of December, alone, the increase reached nearly five millions of feet, equal to twenty per cent. on the consumption in 1851 for the co ıth.

The maximum cons nty-four hours, occurred on the 24th-25th of D ıe reached one million one hundred and twenty-t et, and the largest quantity manufactured in hundred and sixty-two thousand feet, generat undred and ninety-eight retorts.

In the department c ıere has been a good degree of activity, especi ree months of the season.

We have again to record a greater number of new meters and service pipes introduced, than in any former year; a fact not a little remarkable in the eighteenth year of the history of the Works, during nearly every year of which time their growth has surpassed the expectations entertained the year before. Nor is there any great probability of an abatement in the rate of growth yet apparent; on the contrary, the successive reductions in the price of gas, combined with the increasing expense of other modes of lighting, have produced a degree of relative economy in its use so considerable, as to make its introduction a necessity not only in the dwellings of the opulent, to whose favor it was recommended at an early period by reason of its superior convenience and elegance, but now also into the more numerous class of stores and dwellings of smaller size, whose occupants have more regard for things economically useful than for fashion and ornament. An indication of this movement may be perceived in the records of 1851, which show an increase in the proportion of meters of smaller size, with a slight diminution in the ratio of lights to each new service; and is still more distinctly marked in the statistics of the year just closed.

Twelve hundred and sixty-one new service pipes have been introduced, and a like number of meters set of the following

sizes: three light, six hundred and thirty-eight; five light, three hundred and thirty-four; ten light, two hundred; twenty light, sixty; thirty light, eighteen; forty-five light, seven; sixty light, three; one hundred light, one. The entire number of services and meters in use is eleven thousand seven hundred and ten.

The registered applications from new customers in the year, amount to three thousand and four; removals and discontinuances, seventeen hundred and forty-seven; leaving twelve hundred and fifty-seven additional consumers, and a total of eleven thousand six hundred and sixty-three.

The increase of lights in the City has been twenty thousand five hundred and fifty private, and one hundred and eighteen public, making with those formerly reported, one hundred and fifty-seven thousand one hundred and seventy private lights; seventeen hundred and six public lamps in the streets, including those on High street bridge, fifty in the market houses, and sixty-two in public squares. Adding to these the lights reported by the Districts, say, fifty-nine hundred and sixty-five in Southwark; twenty-two hundred and fourteen in Moyamensing, and twelve hundred and fourteen in West Philadelphia, we have an aggregate of one hundred and sixty-eight thousand three hundred and eighty-one lights supplied from our Works.

All the extension of street mains contemplated at the date of the last Annual Report, in furtherance of the wishes of the Committee on Police for the completion of the public lighting, have been accomplished, leaving little more to be done for this purpose in any of the paved streets or alleys.

In most of the principal thoroughfares, the lines of mains have been doubled, there being not more than four miles east of Broad street and about ten miles west of it, not now provided with double lines. The length of mains laid in the year was sixty-one thousand seven hundred and fifty-eight lineal feet, of the following sizes: two inch, eighteen thousand eight hundred and sixty-four feet; three inch, nineteen thousand seven hundred and ten feet; four inch, fourteen thousand nine hundred and fifty-eight feet; eight inch, thirteen hundred and fifty-nine; twenty inch, six thousand eight hundred and sixty-seven feet, the latter being part of the great main to connect with the new

Works in Passyunk. The whole length of mains is now 604,-166 feet, or nearly 114½ miles.

At the new Works, the excavation of the large tank for the gas-holder, commenced last year, was prosecuted uninterruptedly to completion, and the masonry was put in hand as soon as the foundations were ready, and carried on with reasonable despatch on the part of the contractors, but was not finished as soon as was expected in conse[illegible]n the supply of stone of proper quality. It wa[illegible] before winter, and the stone bases for the to[illegible]-frame have been since begun, some of them [illegible]o their finished height ready for the cast iro[illegible]rs are in a state of forwardness that secures [illegible] in a few weeks, when the weather is suitable

The foundations of [illegible] ave been built, and the cast iron frame-work s[illegible]astern half; the castings for the other half are expected to be in readiness in time for finishing the building for the reception of the retort benches as soon as the spring opens. The large connecting main of which mention has already been made, has been partly carried down Schuylkill Third Street to the junction of Federal Street and Long Lane, and down the latter nearly to the Works; about one-half the entire length, and that on the most difficult part of the line, has been finished. In laying this important main, care has been taken to obtain an accurate profile of the entire route, and adjust the grade of the pipe to the future grades of the street.

The peculiar position of Philadelphia, with respect to all the sources whence a supply of gas-making coals can be obtained, makes it necessary to keep on hand a large stock, particularly in the winter months, when it must not be less than will suffice, without possibility of failure, until navigation shall be completely open in the spring. The certainty of obtaining an ample supply of this indispensable material, must be placed out of reach of all probable contingencies. To accomplish this at all times, will sometimes require even an excess beyond the actual necessities of the Works. On the 1st of January, instant, our stock of coals amounted at cost to more than one hundred thous-

and dollars: the outstanding bills for gas made and delivered at the same date, with coke and other products unpaid for, reached ninety thousand dollars more, making an aggregate value of nearly two hundred thousand dollars of property which must be kept on hand several months before the proceeds become available.

The only unusual incident that has to be recorded, as affecting injuriously the interests of the Works, is the fracture of a six inch main over the large culvert in Walnut Street near Second. As the escaping gas found vent through the culvert, it was not observable until it reached an outlet, imperfectly trapped, more than half a mile distant from its origin. After considerable search, the workmen were at length directed to the right spot, where it was found that the main was broken entirely off in consequence of a sinking of the ground over the tunnel in which the sewer had been constructed. The waste of gas by the occurrence cannot be accurately estimated, but it has no doubt contributed to swell the loss to an extent which it will be perceived is greater than has been before experienced, the amount of loss, together with gas used for lighting Works, coal stores and office, having reached four per cent. of the whole quantity made.

Very respectfully,

JOHN C. CRESSON,

Engineer.

Philadelphia Gas Works,
January 14th, 1853.

CASH ACCOUNT.

DR.

Balance on hand, January 1st, 1852, - - -	$37,053 67
Receipts in 1852.	
For Interest on City Loans, - - - - -	4,147 00
Sales of Gas, - - - - - - -	354,781 31
Extra Service Pipes - -	5,938 92
Coke, - - - - -	14,414 66
Tar, - - - - -	3,698 86
Lime, - - - - -	1,344 45
Old materials and s - - -	1,775 91
Bricks, - - - - -	1,405 05
Rents, - - - - -	520 09
Rent of Office and - - -	140 00
Sales of Loan 8, - - -	216,600 00
Premium on sales of - - -	6,180 50
	$648,000 42

CR.

Payments in 1852.	
For The construction and enlargement of the Works,	$114,179 18
Extension of Street Mains, - - - -	66,084 14
Service Pipes and Meters, - - - -	32,373 29
Site of the new Works, - - - - -	5,930 65
Temporary Loan paid, - - - - -	15,000 00
Coal and other materials used in the manufacture of Gas, wages of Workmen, &c., - - -	182,672 15
Repairs of the Works, Street Mains, &c., - -	32,813 92
Incidental expenses, - - - - -	42,386 08
Salaries, - - - - - - - -	8,625 00
Interest on Loans, - - - - - -	45,847 50
Investments on account of Sinking Fund, - -	65,782 50
Balance on hand, January 1st, 1853, - - -	36,306 01
	$648,000 42

STATE OF THE WORKS JANUARY 1, 1853.

Assets.

Works,	$683,349 13
Street Mains,	488,235 52
Service Pipes and Meters,	238,355 38
Public Lamps,	11,814 02
Cash,	36,306 01
Suspended Debt,	2,726 56
Stocks belonging to the Sinking Fund, at cost,	481,708 00
Coal on hand,	100,452 50
Coke on hand,	4,920 00
Due for Gas sold and delivered, and on hand,	84,001 76
Due for Coke, Tar, &c.,	5,000 00
Interest on City Loans, due January 1, 1853,	2,073 50
Wharf lot on the Schuylkill,	6,000 00
Site for the new Works,	36,957 69
	$2,181,900 07

Liabilities.

Loans 1, 2, 3, 4, 5, 6, 7 and 8,	$1,272,000 00
Dividends unpaid,	405 00
Interest on Gas Loans, including that due January 1, 1853,	27,357 70
For Coals, repairs and materials used in the manufacture of Gas,	103,578 33
Sinking Fund,	482,582 89
Contingent Fund,	293,249 59
Profit and Loss (amount of Suspended Debt),	2,726 56
	$2,181,900 07

STATEMENT OF THE SINKING FUND FOR THE YEAR 1852.

1852.			
Jan'y 1,	Amount of Sinki[illegible] this [illegible]ay, - -		$416,166 12
	Increase of the [illegible] in the year 1852:		
June 30,	6 months' inte[illegible] Gas Loans at 6 per cent., - -		7,281 00
	6 months' interest on [illegible] Gas Loans at 5 per cent., - - - -		2,175 00
	6 months' interest on $26,200 City Loans at 6 per cent., - - - - -		786 00
	6 months' interest on $51,500 City Loans at 5 per cent., - - - - -		1,287 50
	6 months' appropriation of 2 per cent. per ann. on $475,000 of Loans 1, 2 and 3, - - - - -	$4,750	
	of 3 per cent. per ann. on $125,000 of Loan 4, - - - -	1,875	
	of 4 per cent. per ann. on $370,000 of Loans 5, 6 and 7, - -	7,400	
	of 4 per cent. per ann. on $186,600 of Loan 8, - - - -	3,732	
			17,757 00
Dec. 31,	6 months' interest on $303,700 Gas Loans at 6 per cent., - - - - -		9,111 00
	6 months' interest on $88,000 Gas Loans at 5 per cent., - - - - -		2,200 00
	6 months' interest on $26,200 City Loans at 6 per cent., - - - - -		786 00
	6 months' interest on $51,500 City Loans at 5 per cent., - - - - -		1,287 50
	Amount carried forward,		$458,837 12

	Amount brought forward,		$458,837 12
6 months' appropriation of 2 per cent. per ann. on $475,000 of Loans 1, 2 and 3, - - - - - -	$4,750		
of 3 per cent. per ann. on $125,000 of Loan 4, - - - - -	1,875		
of 4 per cent. do. on $370,000 of Loans 5, 6 and 7, - - -	7,400		
of 4 per cent. do. on $302,000 of Loan 8, - - - - -	6,040		
		20,065 00	
Premium on sales of Loan 8, less the interest from the time the Loan bore interest to the time the Certificates were issued,		3,680 77	
		$482,582 89	

The amount invested is as follows:

1852.			
Jan'y 1,	Cost of Investments at this date, - -		$415,925 50
Aug. 27,	For $1000 Five per cent. Gas Loan, at 90, and brokerage, - - - -		902 50
Oct. 8,	" $25,000 Six per cent. do. at 104,		26,000 00
Dec. 31,	" $36,000 do. do. at 108,		38,880 00
		$481,708 00	
1853.			
Jan'y 1,	Balance not invested, - - - -		874 89
		$482,582 89	

CITY AND GAS LOANS BELONGING TO THE SINKING FUND, JANUARY 1, 1853.

Five per cent. City Loans:			
Redeemable in 1854,	$700		
1855,	600		
1856,	300		
1857,	2,200		
1858,	7,100		
1859,	4,000		
1861,	1,100		
1862,	1,000		
1863,	300		
1864,	1,400		
1866,	1,000		
1867,	7,100		
1870,	9,700		
1871,	5,200		
1872,	7,300		
1873,	2,200		
1874,	300		
			$51,500 00
Six per cent. City Loans:			
Redeemable in 1870,	$25,600		
1881,	600		
			26,200 00
Six per cent. Gas Loan No. 1:			
Redeemable in 1862,	$10,300		
Six per cent. Gas Loan No. 2:			
Redeemable in 1863,	36,700		
Six per cent. Gas Loan No. 3:			
Redeemable in 1861,	30,400		
Six per cent. Gas Loan No. 5:			
Redeemable in 1868,	36,100		
Six per cent. Gas Loan No. 6:			
Redeemable in 1869,	14,100		
Six per cent. Gas Loan No. 7:			
Redeemable in 1870,	65,100		
Six per cent. Gas Loan No. 8:			
Redeemable in 1872,	111,000		
			303,700 00
Five per cent. Gas Loan No. 4, redeemable in 1866,			88,000 00
			$469,400 00
The cost of the above was			$481,708 00

STATEMENT OF THE PROFIT AND LOSS ACCOUNT, FOR 1852.

1852.			
Jan'y 1,	Amount due for Coal, Materials and Repairs, chargeable to the manufacture of Gas, - - - - - - -	$60,803	35
Dec. 31,	Sales of Gas in 1852, - - - -	354,781	31
	" of Coke " - - - -	14,414	66
	" of Tar " - - - -	3,698	86
	" of Lime " - - - -	1,344	45
	" of Old Materials and sundries, -	1,775	91
	" of Bricks, - - - - -	1,405	05
	Rents, - - - - - - - -	660	09
	Premium on Sales of Loan, - - -	3,680	77
	Interest to the time when the Loans were sold,	2,499	73
	Stock of Coal on hand January 1, 1853, -	100,452	50
	" Coke " " " -	4,920	00
	Due for Coke, Lime, Tar, &c., - -	5,000	00
	" Gas delivered, - - - -	84,001	76
	Suspended Debt, January 1, 1853, - -	2,726	56
		$642,165	00

Jan'y 1,	Amount of Stock on hand and debts due to the Works at this time, - - -	$139,783	81
Dec. 31,	Payments during the year and charges against the manufacture of Gas, Coal and other Materials and Wages, - -	182,672	15
	Repairs, - - - - - - -	32,813	92
	Incidental charges, - - - -	42,386	08
	Salaries, - - - - - - -	8,625	00
	Premium on sales of Loans, appropriated to the Sinking Fund, as directed by Ordinance, - - - - - - -	3,680	77
	Amount carried forward,	$409,961	73

Amount brought forward,		$409,961 7
Appropriated to Sinking Fund, as directed by Ordinance, - - - - - -		37,822 0
Interest on Loans for the year 1852, -		71,608 0
Due for Coal, Repairs and Material used in the manufacture of Gas, - - -		103,578 3
Suspended Debt, January 1, 1852, - -		2,529 2
Balance, -		16,665 7
		$642,165 0

The above balance of -	$16,665 72	
Less the sum of - -	197 34	
the increase of the Suspended Debt, during the year, gives the net increase of the Contingent Fund for 1852, - -		$16,468

STATEMENT OF THE CONTINGENT FUND, FOR 1852.

Amount of the Fund, January 1, 1852, - - -	$276,781 21
Increase during the year, as per Profit and Loss Account,	16,468 38
	$293,249 59

The amount raised under various Ordinances for the construction and enlargement of the Works, and for extraordinary repairs and renewals, and for working capital, has been, to January 1, 1853:

Loans 1, 2, 3, 4, 5, 6, 7 and 8, - - -	$1,272,000 00
Contingent Fund, derived from profits, -	293,249 59
	$1,565,249 59

The amount expended has been:

Construction of Works, - - - -	$683,349 13
Street Mains, - - - - - -	488,235 52
Service Pipes and Meters, - - - -	238,355 38
Public Lamps, - - - - - -	11,814 02
Wharf Lot on the Schuylkill, - - -	6,000 00
Site of the new Gas Works, - - -	36,957 69
Working capital, - - - - -	100,537 85
	$1,565,249 59

The Liabilities of the Works, January 1, 1853, are as follows:

Construction of Works, - - - -	$24,002 69
Street Mains, Service Pipes and Meters, -	20,221 79
Coals, Repairs and Materials used in the manufacture of Gas, - - - - -	103,578 33
	$147,802 81

The amount of Loan 8th, unsold January 1, 1853, is $98,000 00

Lime and cement,	534	93	Ship chand-
Carting,	423	12	lery,
Mason work,	335	00	
Fire bricks,	144	62	
Iron,	142	99	
Stop cocks and slide valves,	109	07	
Boiler and engine,	107	80	
Scales,	91	67	
Tubing,	61	83	
Iron railing,	55	00	
For obtaining possession of land,	55	00	
Sheet lead,	53	35	
Chandlery,	48	45	
Hardware and nails,	46	41	
Bricks,	38	60	
Hose for pumping engines,	32	10	
Clay and loam,	26	[illegible]	
Wire and tin work,	25	89	
Office furniture,	21	[illegible]	
Fencing and clearing at new works,	23	16	
Slating,	20	26	
Barge,	18	00	
Oil and paints,	16	64	
Tubs and casks,	15	50	
Dredging in front of wharves,	15	80	
Use of ground for depositing dirt from tank,	15	00	
Wagon,	15	00	
India rubber packing and belting,	9	77	
Brick laying,	8	00	
Millwright work,	6	82	
Plumber's work,			

GAS.	Dolls.	C.
Wages of stokers &c., employed in retort houses and purifying houses manufacturing gas and wheeling coals,	39620	11
Coals,	94322	34
Freight on coals,	33826	32
Measuring and carting coals,	8935	80
Duties,	4132	10
Oyster shells,	1685	74
Insurance,	96	69
Chemicals,	49	98
General average on cargo brig "Sarah,"	3	07
Total,	182672	15

REPAIRS.	Dolls.	C.
Wages of carpenters, blacksmiths, fitters and laborers engaged in repairs of works, street mains and services,	11066	89
Castings,	7996	44
Fire bricks and clay,	3958	01
Meters,	3362	91
Lumber,	2037	93
Iron,	933	87
Oil and paints,	624	58
Hardware and nails,	458	50
Tubing,	407	38
Paving and bricklaying,	362	13
Wire and tin work	200	12
Chandlery,	306	11
Bricks,	187	21
Slating,	181	35
Stop cocks,	98	7
Scales,	96	68
Carting,	72	42
Lime,	50	00
Sand and mica,	46	35
Trunk boards,	62	35
Burners,	36	00
Repairing furnace,	35	99
Nails,	31	05
Carting,	28	56
Iron borings,	21	75
Hammer handles,	21	67
Trowels,	21	00
Tallow,	20	52
Cement,	20	46
Oiling hose,	20	10
Plastering,	16	77
Cutting files,	11	55
Steam chest,	7	00
Leather,	7	30
Oar poles,	4	80
Total,	32813	92

INCIDENTALS.	Dolls.	C.
Wages of men employed in the inspection of fittings and meters, taking statements for bills, in care of public lamps, storing coke at works, measuring coke and lime and all other incidental matters not appertaining to other specified heads,	22750	17
Rents,	8718	90
Taxes and water,	2815	21
Alcohol,	1472	28
Printing and stationery,	1035	36
Barrels for tar,	513	62
Chemical apparatus, &c.	497	49
Carting,	376	31
Expenses of land, new works,	347	92
Horse keep,	342	86
Druggets (to cover meters)	273	07
Tin work,	195	21
Subscription and advertising in newspapers,	179	58
Damages by repairing pipes on R. Road in High street,	125	00
Brooms, buckets and brushes,	144	51
Paints and oil,	72	57
Reports of lighting,	48	00
Stone,	48	88
Muslin,	37	20
Pump,	32	50
Stoves,	22	75
Repairing blinds,	28	50
Blocks,	9	20
Lanterns,	9	00
Brass castings,	6	30
Oiling hose,	5	00
Tallow,	5	50
Miscellaneous expenses of offices, postage, &c.,	2273	19
Total,	42386	08

CITY REGISTRY.

DATE.	APPLICATIONS.	REMOVALS. DISCONTINUANCES.	PRIVATE LIGHTS.		PUBLIC LIGHTS.		
1852.			Added.	Total.	Streets.	Market Houses.	Squares.
To Jan. 1st,	20470	10064		136620	1588	50	62
January,	155	116	10[illegible]	137652			
February,	162	106		138647			
March,	220	132	1367	140014	12		
April,	228	136	[illegible]	141712	5		
May,	235	139	13[illegible]	143107	8		
June,	203	116	1255	144362	7		
July,	164	108	993	145355	15		
August,	230	146	1721	147076	13		
September,	351	213	2266	149342			
October,	417	215	2510	151852	10		
November,	332	160	2730	154582	12		
December,	307	160	2588	157170	36		
Total,	3004	1747	20550		118		
Bt. down,	20470	10064			1588		
Grand Total,	23474	11811	20550	157170	1706	50	62

REGISTRY OF THE DISTRICTS.

	PRIVATE LIGHTS.	PUBLIC LIGHTS.	MARKET HOUSES.
Southwark,	5811	141	13
Moyamensing,	2100	110	4
West Phila.,	1174	40	
Totals,	9085	291	17

DATE.	SERVICES LAID.	METERS SET.								PUBLIC LAMPS.		
1852.		3 light.	5 light.	10 light.	20 light.	30 light.	45 light.	60 light.	100 light.	On Posts.	On Walls.	Market Houses.
To Jan. 1st.	10449	5227	3110	1645	329	74	34	11	19	1373	215	50
Jan'y,	44	26	7	5	2	2	1	1				
Feb'y,	68	40	10	13	4		1					
March,	41	16	19	5		1				1	11	
April,	120	50	41	25	2	2				4	1	
May,	102	44	25	28	4	1				7	1	
June,	92	45	29	12	4	1		1		7		
July,	56	29	17	3	4	2	1			15		
Aug.,	76	35	17	17	6	1				12	1	
Sep'r,	142	67	36	27	8	1	2		1			
Oct'r,	194	101	54	28	5	3	2	1		7	3	
Nov'r,	161	91	40	20	9	1				12		
Dec'r,	165	94	39	17	12	3				35	1	
Total,	1261	638	334	200	60	18	7	3	1	100	18	
Bt.down	10449	5227	3110	1645	329	74	34	11	19	1373	215	50
Gd.total	11710	5865	3444	1845	389	92	41	14	20	1473	233	50

DATE.	MAIN PIPES LAID IN STREETS, LINEAL FEET.										
1852.	1½ inch.	2 inch.	3 inch.	4 inch.	6 inch.	8 inch.	10 inch.	12 inch.	16 inch.	20 inch.	Tot
To Jan. 1st.	426	88173	2156	[illegible]	[illegible]	506	14324	13500	10413	495	5424
Jan'y,											
Feb'y,											
March,		36	360	297							(
April,		2556	108	1026							3(
May,		2892	3051	639							6(
June,		2376	18	4491							6(
July,		2406	3654	306							6(
Aug.,		1902	1206	2034							5(
Sept'r,										2700	2(
Oct'r,		3084	6174	1656						3834	14(
Nov'r,		678	5094	4005		477					10(
Dec'r,		2934	45	504		882				333	4(
Total,		18864	19710	14958		1359				6867	61(
Bt.down	426	88173	215662	135106	38803	25506	14324	13500	10413	495	5424
Gd.tota	426	107037	235372	150064	38803	26865	14324	13500	10413	7362	6041 *

* Or 114½ miles.

REPAIRS OF SERVICES.

1852.	STOP COCKS RENEWED.	NEW COVERS FOR STOP COCK BOXES.	SERVICES RENEWED.	NEW STOP COCK BOXES.
January,		2		2
February,	3	18	2	20
March,	1	14	1	15
April,	5	13	2	32
May,	1	90	1	89
June,	3		3	68
July,	4	66	3	66
August,	8	5	6	75
September,	13		8	15
October,	6		5	
November,	2	1	2	1
December,	10		7	
Total,	56	209	40	383

STATEMENT OF GAS PAID FOR IN EACH MONTH OF THE YEAR, being the amount of bills as per Meters to the first day of the month.

1852.	FEET OF GAS CONSUMED AT PRIVATE HOUSES.	PUBLIC LAMPS.	DISTRICTS. SOUTH-WARK.	MOYA-MENSING.	WEST PHILA.	TOTAL.
January,	20464200		2162400	594000		23220600
February,	15607500					15607500
March,	13165700	11611350				24777050
April,	18605900		2021100	633100		21260100
May,	14106600					14106600
June,	11246700	9077550				20324250
July,	11337500		1407000	507400		13251900
August,	7303300					7303300
September,	6402400	7442850				13845250
October,	10668000		970000	566000		12204000
November,	12821200					12821200
December,	14375800	10174500				24550300
	156104800	38306250	6560500	2300500		203272050
Inventory of Stock of Gas delivered and on hand—					*Feet.*	
January 1st, 1853,					49412800	
January 1st, 1852,					40796400	
						8616400
Total in the year ending December 31st, 1852,						211888450

ANNUAL REGISTRY OF CONSUMERS AND OF PRIVATE AND PUBLIC LIGHTS.

DATE.	APPLICATIONS.	REMOVALS DISCONTINUANCES	TOTAL NUMBER OF CONSUMERS.	PRIVATE LIGHTS.		PUBLIC LIGHTS.			
To Dec. 31st.				Added.	Total.	Streets.	Market houses.	Squares.	Total.
1836,	301	24	277	2952	2952	165			165
1837,	497	108	666	3862	6814	136			301
1838,	849	174	1341	4288	11102	133		62	496
1839,	946	300	1987	5380	16482	162	18		676
1840,	788	382	2393	3317	19799	112	1		789
1841,	874	493	2774	4387	24186	13	8		810
1842,	845	541	3078	3054	27240	30			840
1843,	986	635	3429	3418	30658	59			899
1844,	1000	503	3926	4940	35598	195			1094
1845,	1147	629	4414	5754	41352	112			1206
1846,	1465	717	5192	8138	49490	96			1362
1847,	1869	887	6174	12987	62477	84	10		1396
1848,	1956	1002	7128	13935	76412	21			1417
1849,	2191	1180	8139	18050	94462	74			1491
1850,	2227	1150	9216	20542	115004	72	13		1576
1851,	2529	1339	10406	21616	136620	124			1700
1852,	3004	1747	11663	20550	157170	118			1818
Totals,	23474	11811		157170		1706	50	62	

STATEMENT OF METERS SET EACH YEAR.

DATE.		METERS SET.							
To Dec. 31st.	SERVICES LAID.	3 light.	5 light.	10 light.	20 light.	30 light.	45 light.	60 light.	100 light.
1836,	251	108	98	31	9	2	3		
1837,	411	301	77	19	6	2	3		3
1838,	690	442	159	61	13	9	2	1	3
1839,	649	421	118	75	26	6	3		
1840,	350	198	78	54	13	3	2		2
1841,	375	203	93	63	14	2			
1842,	299	157	76	57	6	3			
1843,	348	180	110	50	7	1			
1844,	503	292	129	72	5	3	1		1
1845,	523	311	151	49	7	4		1	
1846,	761	390	237	113	14	4	2	1	
1847,	999	481	300	202	12	1	3		
1848,	971	408	333	196	25	4	3	1	1
1849,	1029	366	366	234	46	7	5	2	3
1850,	1079	435	412	165	50	8	3	3	3
1851,	1211	534	373	204	76	15	4	2	3
1852,	1261	638	334	200	60	18	7	3	1
Totals,	11710	5865	3444	1845	389	92	41	14	20

LENGTH OF MAINS LAID IN STREETS EACH YEAR, IN LINEAL FEET.

DATE.	1½ inch.	2 inch.	3 inch.	4 inch.	6 inch.	8 inch.	10 inch.	12 inch.	16 inch.	20 inch.	Total.
1836,		2310	15951	10184	4018		9140				41603
1837,		3468	13068	4302	6984						27822
1838,		150	15660	14409	9036		27	10881	2340		52503
1839,		1704	11629	11997	4419	3726					33475
1840,		222	1674	5[illegible]							2733
1841,		204	8874	71[illegible]							16242
1842,		324	6831	34[illegible]							11772
1843,		966	32796	167[illegible]							52977
1844,		30696	38655	235[illegible]			891				99818
1845,	426	3240	9360	47[illegible]							18588
1846,		10734	9855	84							31479
1847,		4164	6660	28[illegible]							14667
1848,		1734	7578	38[illegible]							15144
1849,		9690	9117	57[illegible]			266	2609	8073	495	56202
1850,		6666	9513	63[illegible]							25242
1851,		11901	18441	1075[illegible]							42141
1852,		18864	19710	14958						6867	61758
Total,	426	107037	235372	150064			324	13500	10413	7362	604166

STATEMENT OF GAS DELIVERED TO PUBLIC AND PRIVATE LIGHTS TO DECEMBER 31st IN EACH YEAR.

YEAR.	PUBLIC LIGHTS.	PRIVATE LIGHTS.	SPRING GARDEN.	SOUTH-WARK.	MOYA-MENSING	WEST PHILA.	Used at Offices, shop & works, & loss by leakage, &c.	MADE AT WORKS.
1836,	978812	4752740					749748	6481300
1837,	1397687	14454891					1226112	17078700
1838,	3013546	22366004					1977450	27357000
1839,	6280654	30658145					2534201	39473000
1840,	8028818	34874380					2506802	45410000
1841,	10208180	39648000					1415820	51272000
1842,	13292000	36596830					922170	50811000
1843,	12985851	34579900					1324249	48890000
1844,	13608356	40022800					1152844	54784000
1845,	17373798	46702800					926402	65003000
1846,	19164106	55219800	163400				906694	75454000
1847,	19122293	68071600	2507100				1846007	91547000
1848,	19924700	78921350	6817000				1109950	106773000
1849,	24524950	96247100	10713200	2322800	195800		1505150	135509000
1850,	28482800	131258400	17650600	3457800	417900		748500	182016000
1851,	36524625	145114200	7039800	5279000	1254700		5629675	200842000
1852,	38306250	160093100		5927900	2892400	354600	8641750	216216000
								1414917000

BOARD OF TRUSTEES, 1853.

FREDERICK FRALEY, PRESIDENT.
JOHN WIEGAND,
DR. GEORGE H. BURGIN,
SAMUEL NORRIS,
JOHN F. GILPIN,
JOHN C. DAVIS,
JAMES TRAQUAIR,
LEWIS COOPER,
BENJAMIN M. FELTWELL,
CHARLES LENNIG,
BENJAMIN GERHARD,
EDMUND A. SOUDER.

COMMITTEE ON GAS.

THOMAS J. PERKINS,
JOHN PRICE WETHERILL,
JOHN AGNEW,
C. A. WALBORN.

ENGINEER.

JOHN C. CRESSON,
Appointed Aug. 26th, 1836.

REGISTER.

WILLIAM FENNELL,
Appointed March 31st, 1836.





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NINETEENTH

ANNUAL REPORT

OF THE

TRUSTEES

OF THE

PHILADELPHIA GAS WORKS.

TO THE

SELECT AND COMMON COUNCILS OF THE
CITY OF PHILADELPHIA.

FEBRUARY 2, 1854.

PHILADELPHIA:
PRINTED BY L. R. BAILEY, 26 NORTH FIFTH ST.
1854.



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ASTOR, LENOX AND
TILDEN FOUNDATIONS.
1904

REPORT.

TO THE SELECT AND COMMON COUNCILS
OF THE CITY OF PHILADELPHIA:

THE Trustees of the Philadelphia Gas Works herewith present the Report of the Engineer and full statements of the accounts as their Nineteenth Annual Report of the business of the establishment under their charge.

The details of all the transactions are fully given therein, and all that remains for the Board is to present a brief analysis of the results, and to suggest such matters for your consideration, as proper preparations for the future are deemed to require.

The quantity of gas made was 249,427,000 cubic feet, being 33,211,000 cubic feet more than for 1852.

The sales of gas and the other products of the Works, amounted to $470,403 52, and are $88,915 28, more than those of last year.

Although the price of materials, and of some departments of labor, has been considerably enhanced, the enlarged production of the Works has been accomplished, without a corresponding addition to our manufacturing apparatus; and hence the profits of the year are much better than we anticipated in our last Report.

The demand has also been more extensive for our

bye products such as Coke, Tar and Lime, and the sales of those articles have been more remunerative than ordinary.

From the combination of these causes the net profits for the year, have reached the sum of $44,492 30, and the Board has [illegible]able to meet the large calls made upon [illegible]ustomers.

Had the pr[illegible]v as those for 1852, we would have been [illegible]esort to Councils before the close of the y[illegible]eans to provide for the supply of the [illegible]ith service pipes and meters.

On this point [illegible] attention to the Report of the Engineer, wh[illegible]hat for the three years last past, the expenditures upon the department of distribution have averaged about $75,000 per annum, against $30,000—which sum was the average of the preceding years.

So great an Annual addition to our current business, requires a corresponding increase of capital both in the permanent and working departments, and such an increase the Trustees have now no authority to raise.

Referring Councils to the accounts they will find, that on the 31st of December last, the amount due to the Works, was $111,722 53, and the value of the Coal and Rosin on hand, $86,546 45.

The Stock of these essential materials for the manufacture of gas, was below what we consider prudent to provide for the winter work and hence the total $198,268 98, or in round numbers $200,000, is the smallest sum that ought to be deemed sufficient for working capital.

But in reality we have been only able to reserve

out of the means provided by loans, and the accumulated profits, the sum of about $75,000 for working operations, and the whole of the remainder is represented by that portion of our stock of materials, &c., which is purchased on credit, and on which the credit sometimes expires at inconvenient times for payment.

The whole of the means now authorized to be raised by loan are nearly exhausted: the liabilities contracted for the new works and for the extension of the distribution is $66,193 60. The amount of Loan eighth unsold, is only $24,200, so that it is manifest we must cease taking new customers, from our total inability to purchase gas pipes and meters for their supply. As a large part of the capital intended for the construction of the new works has been expended on the objects just referred to, we will be unable to complete them without further authority to raise money.

The new works cannot be put in profitable or successful action unless dwellings are provided for the workmen, either by the City, or by individuals, and as the Councils have not yet determined the course of the Corporation in this matter, we deem it most safe to assume, that such dwellings will be provided out of funds appropriated to the Gas Works. Adequately to provide for all the objects thus enumerated, would probably require $500,000, in addition to the annual net profits of the Works.

The expenditure of such a sum would be spread over several years, and the experience of the past teaches that a large portion of it would be taken up by the Sinking Fund of the Gas Works.

The Trustees, therefore, respectfully ask the authorization of a Loan for the purposes of the Gas Works, to the extent of $500,000 on the usual terms. When

it is considered that the Gas Works are not only self-supporting, but rapidly extinguishing the debts contracted for their erection, while charging a lower price for the light furnished than is paid elsewhere on this Continent, there can be no reasonable objection to the continuance of a policy which has yielded such satisfactory results and met with the cordial approbation of our fellow citizens.

The total amount expended on Real Estate, Works, and the extended system of pipes and other appurtenances is $1,694,635 68. The present amount of the liabilities contracted for those objects after deducting the sums represented by the Sinking Fund, and the Contingent Fund is only $803,589 59.

It is believed that the Property held by the Board, with the privileges now used for the manufacture and sale of gas to the public and to the citizens, on the same terms as it is now furnished could be sold for the sum of Two Millions of Dollars. The Board merely refer to this as explanatory of the true condition of their affairs, and with no view of advising such a sale. It is however deemed a cogent argument for furnishing a prompt and adequate enlargement of the capital, of the concern in order to still further increase its usefulness and profits

BY ORDER OF THE TRUSTEES,

F. FRALEY, *President.*

Office of the Philadelphia Gas Works,
February 2, 1854.

Attest:

WILLIAM FENNELL, *Register.*

THE ENGINEERS' REPORT.

TO THE TRUSTEES OF THE PHILADELPHIA GAS WORKS:

GENTLEMEN:

The Engineer respectfuly presents to the Trustees of the Philadelphia Gas Works his Eighteenth Annual Report; detailing the operations of the Works for the year 1853.

In the quantity of Gas manufactured, there is an increase over the previous year of thirty-three million cubic feet.

Considerable difficulty has been experienced in obtaining a sufficient supply of Coals, in consequence of which it has been found necessary to buy varieties of inferior productiveness at high prices, whereby the yield of Gas to the pound of Coal will be diminished, and its cost much increased. In other respects the results obtained are as favorable as usual.

There has been manufactured during the year two hundred and forty-nine million, four hundred and twenty-seven thousand cubic feet of gas; making an aggregate production from the Works of sixteen hundred and sixty-four million, three hundred and forty-four thousand cubic feet.

The product for the year has been distributed in the following proportions to the different municipal sections, supplied from our Works.

	CUBIC FEET.
District of Southwark, ...	10.458.200
Do. Moyamensing, ...	5.810.700
Do. West Philadelphia, . . .	2.765.720
City, including what is used at the Works and offices, and loss by leakage, and opening of mains for connections and service pipes,	230.392.380
	249.427.000

The maximum product of gas in twenty-four hours was one million, one hundred and thirty-seven thousand cubic feet.

The maximum consumption, one million, three hundred and eighteen thousand feet.

For the manufacture of gas, the materials used in the year, are as shown in the following statement:

Coal in store Jan	454,101	Bushels.
" bought in	635,991	"
	1,090,092	"
Coal carbonized	779,628	"
" in store Jan	310,464	"
	1,090,092	"
Coke on hand January 1st, 1853,	123,000	"
" made in 1853,	895,434	"
	1,018,434	"
Coke used under retorts,	475,867	"
" " at New Works,	16,839	"
" " in Office and Yard,	7,140	"
" sold,	513,588	"
Stock of Coal on hand January 1, 1854,	5,000	"
	1,018,434	"
Rosin used,	134,327	Pounds.
Lime used in purifiers,	60,156	Bushels.

In the department of distribution, the additions to the service pipes and meters, have again surpassed those of any former year, and the increase in number of lights is also greater than has been

experienced. The main pipes laid in streets have been as follows: two inch pipes, seven thousand one hundred and fifty-two feet; three inch, three thousand seven hundred and forty-four feet; four inch, three thousand seven hundred and eighty-feet; six inch, four hundred and fourteen feet; sixteen inch, seven hundred and twenty feet; twenty inch, seven thousand two hundred and fifty-seven feet; total, twenty-three thousand and sixty-seven feet. The entire length of street gas mains is now six hundred and twenty-seven thousand, two hundred and thirty-three feet, or one hundred and eighteen and three quarter miles.

There have been one thousand three hundred and sixty-four service pipes laid in new places, and the same number of new meters set; which, added to those before in use, make an aggregate of thirteen thousand and seventy-four services and meters.

Applications for gas have been registered to the number of three thousand two hundred and eighty, and the removals, and discontinuances are one thousand nine hundred and fifty-four; leaving one thousand three hundred and twenty-six as the increase of consumers, and making the whole number of consumers at this time, twelve thousand nine hundred and eighty-nine. The lights added are twenty-five thousand four hundred and thirty-two private, and eighty-eight public; also, twenty-three in Independence Square. The Districts of Southwark and Moyamensing, and West Philadelphia report fifteen thousand six hundred and twenty-nine private, and four hundred and eighty-five public lights; which make a grand total of two hundred thousand, eight hundred and forty-five supplied from our Works.

In one of the Western Public Squares, main pipes have been laid down by the direction of the Committee on City Property, but the gas has not yet been introduced.

By reason of the great increase of street mains and service pipes and meters the expenditures in this department have outrun the provisions heretofore made for it, to an extent that makes some further authoritative action a matter of imperative necessity. When in the year 1844 the Contingent Fund was devoted to the purpose of defraying the cost of the extensions of distribution, the number of services and meters required to

meet the demands of new customers had averaged in the previous three or four years not quite three hundred and fifty per Annum, and therefore the sum of thirty thousand dollars a year to which the Contingent Fund was restricted was deemed sufficient for this object. Since that period the Annual applications for gas have become much more numerous, and particularly so since the recent la he main pipes into all quarters of the City f affording to every section the advantages of The growth in this respect has exceeded all d in regard to it, so that instead of the av dred and fifty a year, on which the limitat ent Fund was based, the new services and ave increased to the large number of one t lred and sixty-four in the last year, and ha one thousand two hundred and eighty the last three years. As a necessary consequence the expenditures of this department have grown from the original estimate of thirty thousand dollars a year to over seventy-five thousand; and thus not only absorbed the whole of its own proper Fund but have also encroached largely upon the resources designed for the enlargement of the Works and for Working Capital. All that can be derived from these sources is now exhausted, and the increase of street mains and service pipes and meters must therefore cease until funds are provided for their cost.

At the new Works in Passyunk, the principal Structures are all roofed in and nearly completed; and as much progress has has been made in fitting up the apparatus and its connections as circumstances allowed. Much delay has arisen in the prosecution of this work from the unusual scarcity of skilled labourers; and the difficulty from this cause was enhanced by the want of suitable dwellings for the accommodation of the workmen; in consequence of which it has been impossible to keep the desired force on the work; for in a season of unusually active employment, many workmen refuse to engage at a place so far distant from their residence; and it was found that skillful mechanics could be kept steadily employed, only by providing them with means of conveyance to and from

their work, whereby much expense has been imposed on the Contractors and on the Gas Works.

The same difficulty of accommodations made it expedient to postpone the commencement of Gas Making Operations to the latest possible period: for the accomplishment of which it has been necessary to keep the Apparatus at the old Works in the highest state of efficiency attainable by the most vigilant daily inspection, and the prompt renewal of the parts exposed to destructive agencies, without waiting for the degree of dilapidation ordinarily admissable. By these means the supply of gas has been thus far maintained without recourse to the New Works, and it is believed it may be carried through the present Winter unless some unforseen disaster should occur to diminish materially their effective condition.

Should the question of the erection of dwelling houses for the workmen be left in its present unsettled state, in which no authority is granted to the Trustees and no incentive is offered to individuals to undertake their construction, very serious inconvenience and much useless expense will be the probable result.

Very respectfully submitted, by

JOHN C. CRESSON,

Engineer

Philadelphia Gas Works,
January 13th, 1854.

CASH ACCOUNT.

DR.

Balance on hand, January 1st, 1853, - -	$ 36,306 01

Receipts in 1853.

For Interest on City Loans, - -	3,429 50
Sales of Gas, - - - -	413,899 86
Extra Service Pipes and Meter Cocks,	7,287 33
Coke, - - - - -	25,147 36
Tar, - - - - -	6,987 75
Lime, - - - - -	1,647 78
Old materials, &c. - - - -	1,589 29
Bricks and Tiles, - - - -	795 03
Rents, - - - -	459 75
Rent of Office and Cellar, - - -	140 44
Sales of Loan 8, - - - -	73,800 00
Premium on sales of Loan 8, - -	2,236 00
Sales of Loans belonging to the Sinking Fund,	20,282 50
	$ 594,008 60

CR.

Payments in 1853.

For The construction and enlargement of the Works,	$ 80,536 34
Extension of the Street Mains, - -	38,268 45
Service Pipes and Meters, - - -	32,207 88
Coal and other materials used in the manufacture of Gas, wages of Workmen, &c. -	187,099 91
Repairs of the Works, Street Mains, &c. -	51,462 64
Incidental expenses, - - -	37,825 95
Salaries, - - - - -	8,527 78
Interest on Loans, - - - -	51,107 15
Investments on account of Sinking Fund,	91,856 00
Interest on Temporary Loan, - -	26 67
Balance on hand, January 1st, 1854, - -	15,089 83
	$ 594,008 60

STATE OF THE WORKS JANUARY 1, 1854.

Assets.

Works,	$763,885 47
Street Mains,	526,503 97
Service Pipes and Meters,	263,275 93
Public Lamps,	11,814 02
Cash,	15,089 83
Suspended Debt,	2,895 32
Stocks belonging to the Sinking Fund, at cost,	553,281 50
Coal on hand,	77,615 25
Coke on hand,	300 00
Rosin on hand,	8,931 20
Due for Gas sold and delivered, and on hand,	100,722 53
Due for Coke, Tar, &c.	11,000 00
Interest on City Loans, due January 1st, 1854,	1,356 00
Wharf Lot on the Schuylkill,	6,000 00
Site of the New Works,	36,957 69
	$2,379,628 71

Liabilities.

Loans 1, 2, 3, 4, 5, 6, 7, and 8,	$1,345,800 00
Dividends unpaid,	405 00
Interest on Gas Loans, including that due January 1st, 1854,	27,236 55
For Coals, repairs and materials used in the manufacture of Gas,	112,245 75
Sinking Fund,	553,304 20
Contingent Fund,	337,741 89
Profit and Loss (amount of Suspended Debt),	2,895 32
	$2,379,628 71

STATEMENT OF THE SINKING FUND FOR THE YEAR 1853.

1853.			
Jan'y 1,	Amount [illegible] this day,		$482,582 89
	Increas[illegible] fund in the year 1853:		
June 30,	6 months [illegible] 600 Gas Loans at 6 per [illegible]		9,828 00
	6 months' [illegible] 900 Gas Loans at 5 per cent.,		2,347 50
	6 months' interest on $7,200 City Loans at 6 per cent.,		216 00
	6 months' interest on $45,600 City Loans at 5 per cent.,		1,140 00
	6 months' appropriation of 2 per cent. per ann. on $475,000 of Loans 1, 2 and 3,	$4,750	
	of 3 per cent. per ann. on $125,000 of Loan 4,	1,875	
	of 4 per cent. per ann. on $672,000 of Loans 5, 6, 7 and 8,	13,440	
			20,065 00
Dec. 31,	6 months' interest on $392,500 Gas Loans at 6 per cent.,		11,775 00
	6 months' interest on $93,900 Gas Loans at 5 per cent.,		2,347 50
	6 months' interest on $7,200 City Loans at 6 per cent.,		216 00
	6 months' interest on $45,600 City Loans at 5 per cent.,		1,140 00
	Amount carried forward,		$531,657 89

	Amount brought forward,		$531,657	89
	6 months' appropriation of 2 per cent. per ann. on $475,000 of Loans 1, 2 and 3, - - - - - -	$4,750		
	6 months' appropriation of 3 per cent. per ann. on $125,000 of Loan 4,	1,875		
	of 4 per ct. per ann. on $745,800 of Loans 5, 6, 7 and 8, -	14,916		
			21,541	00
	Premium on sales of Loan 8,	2,236 00		
	Less the interest from the time the Loan bore interest to the time the Certificates were issued,	2,130 69		
			105	31
			$553,304	20

The amount invested is as follows:

1853.				
Jan'y 1,	Cost of Investments at this date, - -		$481,708	00
" 28,	For $1,600 Gas Loan received from the City Treasurer in exchange for $1,600 City Loans—5 per cents.			
March 11,	Bought $20,000 Gas Loan No. 2, at 4½ per cent. premium, and 300 do. do. at 4 pr. ct. do. and brok'e,	$21,262 75		
	Sold $19,000 City 6 pr. ct. Loan at 7 per ct. prem. less brokerage,	20,282 50		
	Difference,		980	25
March 26,	For $4,000 5 per cent Gas Loan received from the City Treasurer in exchange for $4,000 5 per cent. City Loans.			
April 8,	For $2,700 6 per ct. Gas Loan, at 104,		2,808	00
22,	For $300 5 per cent. Gas Loan received from the City Treasurer in exchange for $300 City 5 per cent. Loan.			
May 14,	For $900 6 pr. ct. Gas Loan at 104 & brok'e		938	25
Dec. 31,	" $64,900 do. do. at 103,		66,847	00
			$553,281	50
1854.				
Jan'y 1,	Balance not invested, - - - -		22	70
			$553,304	20

CITY AND GAS LOANS BELONGING TO THE SINKING FUND, JANUARY 1, 1854.

Five per cent. City Loans:			
Redeemable in 1854,	- -	$700	
1855,	- -	600	
	- -	300	
	- -	2,200	
	- -	7,100	
	- -	4,000	
	- -	1,100	
	- -	1,000	
	- -	3,900	
	- -	9,700	
	- -	5,200	
	- -	7,300	
	- -	2,200	
	- -	300	
			$45,600 00
Six per cent. City Loans:			
Redeemable in 1876,	-	$6,600	
1881,	-	600	
			7,200 00
Six per cent. Gas Loan No. 1:			
Redeemable in 1862,	-	$10,400	
Six per cent. Gas Loan No. 2			
Redeemable in 1863,	-	57,300	
Six per cent. Gas Loan No. 3			
Redeemable in 1861,	-	32,100	
Six per cent. Gas Loan No. 5:			
Redeemable in 1868,	-	36,100	
Six per cent. Gas Loan No. 6:			
Redeemable in 1869,	-	14,100	
Six per cent. Gas Loan No. 7:			
Redeemable in 1870,	-	66,100	
Six per cent. Gas Loan No. 8:			
Redeemable in 1872,	-	176,400	
			392,500 00
Five per cent. Gas Loan No. 4, redeemable in 1866,			93,900 00
			$539,200 00
The cost of the above was - - - - -			$553,281 50

STATEMENT OF THE PROFIT AND LOSS ACCOUNT, FOR 1853.

1853.		
Jan'y 1,	Amount due for Coal, Materials and Repairs, chargeable to the manufacture of Gas,	$103,578 33
Dec. 31,	Sales of Gas in 1853,	413,899 86
	" of Coke "	25,147 36
	" of Tar "	6,987 75
	" of Lime "	1,647 78
	" of Old Materials, &c.	1,589 29
	" of Bricks and Tiles,	795 03
	Rents,	600 19
	Premium on Sales of Loan,	105 31
	Interest to the time when the Loans were sold,	2,130 69
	Stock of Coal on hand January 1, 1854,	77,615 25
	" Coke " " "	300 00
	" Rosin " " "	8,931 20
	Due for Coke, Lime, Tar, &c.,	11,000 00
	" Gas delivered,	100,722 53
	Suspended Debt, January 1, 1854,	2,895 32
		$757,945 89

Jan'y 1,	Amount of Stock on hand and debts due to the Works at this time,	$194,374 26
Dec. 31,	Payments during the year and charges against the manufacture of Gas, Coal and other Materials and Wages,	187,099 91
	Repairs,	51,462 64
	Incidental charges,	37,825 95
	Salaries,	8,527 78
	Premium on sales of Loans, appropriated to the Sinking Fund, as directed by Ordinance,	105 31
	Amount carried forward,	$479,395 85

Amount brought forward,		$479,395 85
Appropriated to Sinking Fund, as directed by Ordinance, - - - - -		41,606 00
Interest on Loans for the year 1853, -		77,310 67
Due for Coal, Repairs and Material used in the manufacture of Gas, - - -		112,245 75
Suspended Debt, January 1, 1853, - -		2,726 56
Balance, -		44,661 06
		$757,945 89
The above balance of -	$44,661 06	
Less the sum of - -	168 76	
the increase of the Suspended Debt, during the year, gives the net increase of the Contingent Fund for 1853, - -		$44,492 30

STATEMENT OF THE CONTINGENT FUND, FOR 1853.

Amount of the Fund, January 1, 1853, - - -	$293,249 59
Increase during the year, as per Profit and Loss Account,	44,492 30
	$337,741 89

The amount raised under various Ordinances for the construction and enlargement of the Works, and for extraordinary repairs and renewals, and for working capital, has been, to January 1, 1854:

Loans 1, 2, 3, 4, 5, 6, 7 and 8, - - -	$1,345,800 00
Contingent Fund, derived from profits, -	337,741 89
	$1,683,541 89

The amount expended has been:

Construction of Works, - - - -	$763,885 47
Street Mains, - - - - - -	526,503 97
Service Pipes and Meters, - - - -	263,275 93
Public Lamps, - - - - - -	11,814 02
Wharf Lot on the Schuylkill, - - -	6,000 00
Site of the new Gas Works, - - -	36,957 69
Working capital, - - - - -	75,104 81
	$1,683,541 89

The Liabilities of the Works, January 1, 1854, are as follows:

Construction of Works, - - - -	$51,537 46
Street Mains, Service Pipes and Meters, -	14,661 14
Coals, Repairs and Materials used in the manufacture of Gas, - - - -	112,245 75
	$178,444 35

The amount of Loan 8, unsold January 1, 1854, is $24,200 00

In favor of John C. Cres

DATE.				
1852.				
December	24th,	Appropriation	No.	282,
1853.				
January	14th,	do.	"	283,
Do.	28th,	do.	"	284,
February	11th,	do.	"	285,
Do.	25th,	do.	"	286,
March	11th,	do.	"	287,
Do.	25th,	do.	"	288,
April	8th,	do.	"	289,
Do.	22d,	do.	"	290,
May	13th,	do.	"	291,
Do.	27th,	do.	"	292,
June	10th,	do.	"	293,
Do.	24th,	do.	"	294,
July	8th,	do.	"	295,
Do.	22d,	do.	"	296,
August	12th,	do.	"	297,
Do.	26th,	do.	"	298,
September	9th,	do.	"	299,
Do.	22d,	do.	"	300,
October	14th,	do.	"	301,
Do.	28th,	do.		

CERTIFICATE NO. 283.

Works.

January 14th.

Wages for December, . . .	$1,159 06	
Dennis Kennedy, for Stone-masons work,	500 00	
Carrick & Sloan, for Carting, . . .	1 75	
Edward Evans, for Slating, . . .	106 53	
Howell & Brother, for Paper Hanging, &c.	52 18	
P. F. Brady, for Ship Chandlery, . .	8 20	
Thomas Collins, for Carting, . . .	86 35	
E. Coperthwait, for Upholstry, . . .	30 72	
Robert Saxton, for Freight, . . .	75 00	
E. Kellum, for Towing, ...	8 00	
Dennis Kennedy, Stone-masons work, .	500 00	
Thomas Collins, for hauling Stone, . .	200 00	
E. Wilmer, for Stoves, ...	155 00	$2,882 79

Street Mains.

Wages for December, ...	699 82	
Carrick & Sloan, for Carting, . .	22 50	
P. F. Brady, for Ship Chandlery, . .	3 28	
Thos. Birch, City Commissioner for Paving,	666 62	
A. F. Hill, for Stone, ...	29 75	1,421 97

Services.

Wages for December, . . .	878 65	
Roberts & Conrad, for Blankets, . .	400 33	
Thos. Birch, City Commissioner for Paving,	171 06	1,450 04

Gas.

Wages for December, ...	3,764 64	
Carrick & Sloan, for Carting, . .	172 25	
J. Heffelfinger, for Sowing, . .	22 00	3,958 89

Repairs.

Wages for December, . . .	1,023 37	
Carrick and Sloan for Carting, . .	24 50	
Allen & Brother, for Plastering, .	10 00	
Edward Evans, for Slating, . . .	214 47	
P. F. Brady, for Ship Chandlery, . .	13 34	
Thos. Birch, City Commissioner, for Paving,	7 50	
Wm. Griffith, for Iron Borings,	10 26	1,303 44
Amount carried forward, .		$11,017 13

CERTIFICATE NO. 283.—*Continued.*

January 14th.

Amount brought forward . .			$11,017 13

Incidentals.

Wages for December, . . .	$ 1,879 50		
Carrick & Sloan, for Ca[illegible]	43 70		
J. Henry Bulkley, for R	12 00		
North, Chase & North,	47 75		
George Noble, for Sand	28		
M. Costello, for Brand,	3 31		
R. R. Shaw, for Towels	1 00		
E. P. Coleman, for Bolt	50		
J. R. Tomlinson, for Gr	24		
S. Hewitt, for Birch Bro	13 70		
George Noble, for Charc	12		
R. Nixon, for Carting,	4 00		
William Brown, do.	2 50		
James Dobbins, for Corn Brooms, . .	2 75		
John Miller, for Oyster Shells, . .	26		
Robert McClelland, for Dirt, . . .	1 52		
L. Augustine, for Tin Pipe, . . .	5 08		
Carrier N. American, ...	25		
Bart. Gray, for Ploughing, &c. . .	$ 51 50	2,069 96	13,087 09

CERTIFICATE NO. 284.

Works.

January 28th.

S. P. Hancock, for Bricks, . . .	$ 4 00		
Carrick & Sloan, for Carting, . .	9 00		
Reuben Lukens, for Lime, . . .	120 67		
William Yarnall, for Hardware, . .	100 00		
George J. Weaver, for Rope, . .	41 16		
Thompson & West, for Stop Cocks, .	76 00		
Clifford Smith, for Iron, . . .	300 00		
Reeves, Buck & Co. for Nails, . ,	14 52		
Robert Hutchinson, for Leather, . .	13 11	678 46	

Street Mains.

Carrick & Sloan, for Carting, . .	25 00		
R. D. Wood & Co., for Castings, . .	7 33		
Geo. J. Weaver & Co., for Rope and Yarn,	193 78		
Geo. W. Metz & Sons, for Brushes,	7 47		
Reeves, Abbott & Co., for Pipes, . .	4,273 13	4,506 71	
Amounts carried forward, . .		$5,185 17	13,087 09

CERTIFICATE NO. 284.—*Continued.*

January 28th.

Amounts brought forward, . .		$5,185 17	13,087 09
Services.			
Robert Thompson, for Paving, . .	$ 569 12		
James M. Snowden, for Lumber, . .	125 74		
William Yarnall, for Hardware, . .	95 88		
Thompson & West, for Stop Cocks, .	23 00		
Wright & Hunter, for Plumbing, &c. .	72 79	886 53	
Gas.			
Carrick & Sloan, for Carting, . .	272 55		
D. S. Wooldridge, for Coal, . . .	4,594 08		
A. S. Wooldridge, do. . . .	3,656 49		
E. Cunard, do. . . .	577 50	9,100 62	
Repairs.			
S. P. Hancock, for Bricks, . . .	197 50		
J. W. Simes & Sons, for Paint, Oils, &c.	44 75		
Hoopes & M'Ilvain, for Sand, . .	11 20		
J. P. & Wm. Wetherill, for Paint and Oil,	136 35		
Lane & Co., for Wheelwright work,	9 45		
R. D. Wood & Co., for Castings, . .	2,072 89		
Robert Thompson, for Paving, . .	17 25		
William Yarnall, for Hardware, . .	133 01		
Thomas S. Wiegand, for Paint, &c. .	24 21		
Clifford Smith, for Iron, . . .	401 99		
Reeves, Buck & Co., for Nails, . .	13 60		
Wright & Hunter, for Plumbing, . .	15 60	3,077 80	
Incidentals.			
Carrick & Sloan, for Carting, . .	19 95		
J. S. Williams, for Tinware, . . .	5 00		
John Diehl, City Agent, for Rent, . .	1,895 00		
Lane & Co., for Wheelwright work, .	88 00		
James M'Namee, for Hack hire, . .	55 50		
Perkins & Co., for Muslin, . . .	37 58		
William Mann, for Patent Binders .	5 83		
Garrett Randolph, for Carting, . .	18 50		
Charles Raynor, for Oats, . . .	23 00		
James West, for Horse Shoeing, . .	38 94		
Crissy & Markley, for Paper and Printing,	55 50		
Howell Evans, for do. do.	10 50		
George W. Metz & Sons, for Brushes,	19 87		
Thos. S. Wiegand, for Paints, &c. .	20 00		
J. A Solliday, for Gas Burners, . .	2 50	2,295 67	$ 20,545 79
Amount carried forward, . . .			$ 33,632 88

CERTIFICATE NO. 285.

Amount brought forward, . . .			$ 33,632 88
	Works.		
February 11th.			
Wages for January, ...	$ 626 27		
John C. Leiper, for Stone, . . .	1,000 00		
French & Richards, for Paints,	6 63		
Thomas Collins, for C	67 91		
Peter Bobb, for Bricks,	12 00		
George Russell, for Lu	1,800 50		
George Randolph, for (	4 80		
William Griffith,	9 00		
A. Walker,	3 00		
J. Firth, for Lanterns,	4 50		
Maul & Brother, for W	2 50	3,537 11	
	s.		
Carrick & Sloan, for Car	19 87		
R. D. Wood &, Co., for Pipes, . .	2,227 84		
Colwell & Co. . do. . . .	4,011 45		
George Russell, for Lumber, . .	62 00	6,321 16	
	Services.		
Wages for January, ...	683 28		
I. & H. Jones, for Cocks, . . .	1,626 93		
A. Harris & Co., for Meters, . .	1,578 90		
George Gardom, for Paint, &c. . .	17 49		
Samuel Troth, for do. . .	36 99		
N. Trotter & Co., for Tin and Copper,	60 55		
George Russel, for Lumber, . .	164 63	4,168 77	
	Gas.		
Wages for January, ...	3,871 98		
Carrick & Sloan, for Carting, . .	196 30		
E. Cunard, for Coal, ...	577 50		
Do. do.	610 50		
Do. do.	517 00		
Dutilh, Humphreys & Co., for Coal, .	1,143 62	6,916 90	
	Repairs.		
Wages for January, ...	1,056 66		
A. C. Brown, for Force Pump, . .	13 39		
John Agnew, for repairs to Pumps and Hose,	19 62		
George Russell, for Lumber, . .	940 20		
George W. Baker, for Hammer Handles,	5 88		
John Patterson, for Pump Leather, .	6 50		
William Griffith, for Iron Borings, . .	1 16	2,043 41	
Amounts carried forward, . .		$ 22,987 35	33,632 88

CERTIFICATE NO. 285.—*Continued.*

February 11th.

Amounts brought forward, . . .		$ 22,987 35	33,632 88

Incidentals.

Wages for January, ...	1,863 31		
Do.	3 00		
Do.	14 50		
A. Cummings, for Evening Bulletin, .	20 00		
Carrick & Sloan, for Carting, . .	20 45		
Wm. H. Maurice, for Stationery, .	67 86		
T. K. & P. G. Collins, for Rent, .	87 50		
Thomas Collins, for Carting, . .	2 00		
George Noble, for Lampwick, . .	31		
A. L. Massey, for sundries for Board,	5 25		
Wm. Wallace, for Horse Shoeing, .	8 25		
F. Meyers, for Regulating Scales, .	3 00		
Wm. Buckhardt, for Corn Brooms,	2 50		
W. M'Minahan, for Saddlery, . .	14 26		
F. Blackimoore, for keys, . . .	1 30		
M. Williams, for Flannel, . . .	12		
Donnally & Cannon, for Washing, .	10 00		
Dr. R. H. Rand, for Professional Services,	5 00		
Daniel Dougherty, for Dirt, . .	20		
Dallet & Brother, for Soap, . .	5 50	2,134 31	25,121 66

CERTIFICATE NO. 286.

Works.

February 25th

J. & D. Sellers, for Belting, . .	20 00		
Carrick & Sloan, for Carting, . .	28 50		
Dennis Kennedy, for Stonemason work,	300 00		
Joseph S. Keene & Sons, for Lumber,	530 85		
I. P. Morris & Co., for Castings, .	3,000 00		
Colwell & Co. do. . .	450 00	4,329 35	

Street Mains.

Carrick & Sloan, for Carting, . .	15 00		
Joseph S. Keene & Sons, for Lumber,	37 50		
Colwell & Co., for Pipes, . . .	19 50	72 00	

Services.

John Laidlaw, for Meters, ...		59 50	
Amounts carried forward, - -		$4,460 85	$58,754 54

CERTIFICATE NO. 286.—*Continued.*

Amounts brought forward,		$4,460 85	$58,754 5
February 25th.			
Gas.			
Carrick & Sloan, for Carting,	180 80		
E. Cunard, for Coal,	456 50		
Lewis & Butler, do.	2,108 08		
Bingham & Dock,	1,079 33		
A. S. Wooldridge,	4,038 77		
D. S. Wooldridge,	6,191 38		
Atkins & Co.	1,397 11		
Harris & Leech,	1,924 81		
Henry Winsor,	1,780 43	19,157 21	
s.			
Joseph S. Keene &	316 42		
Colwell & Co. for Pi,	8 00	324 42	
als.			
Carrick & Sloan, for Ca	5 25		
J. S. M'Mullin, for Taxes,	1,600 00		
Jesper Harding, for Penn. Inquirer,	40 00		
Robert Donnell, for Groceries,	7 50		
Charles Raynor, for Oats,	23 00		
S. W. Jacobs, for repairs to Carriage,	26 75		
John Thornley, for India Rubber Hose,	22 02	1,724 52	25,667 0

CERTIFICATE NO. 287.

Works.			
March 11th.			
Wages for February,	557 00		
Thomas Collins, for Carting,	60 88		
Carrick & Sloan, for do.	38 62	656 50	
Services.			
Wages for February,	661 00		
Tatham & Brother, for Lead Tubing,	238 43	899 43	
Gas.			
Wages for February,	3,322 42		
Carrick & Sloan, for Carting,	188 20		
George Woodward, for Coal,	264 60		
Andrew Steil, for Measuring Coal,	4 08		
U. S. Customs, for Duties on do-	97 40		
S. M. Waln, for Coal,	2133 47		
Do. do.	4,494 09		
Do. do,	2,323 48	12,827 74	
Amounts carried forward,		$14,383 67	$84,421 5

CERTIFICATE NO. 287.—*Continued.*

Amounts brought forward, - -		$14,383 67	$64,421 54
March 11th.			
Repairs.			
Wages for February, . . .	1,013 88		
G. W. Baker, for Hammer Handles,	4 50		
William Patterson, for Leather, .	9 60		
Jos. Jackson, for Walnut Boards and Wire,	1 05		
George Schrack, for Varnish, . .	2 19		
John B. Stryker, for Cloth, . .	3 50		
Fountin & Beideman, for repairs to Scow,	5 30		
George Gardom, for Varnish, . .	50		
P. Smith, for Hardware, . . .	1 00		
B. F. Kern, for Knobs, . . .	31		
F. Blackmoore, for Fitting Key, . .	19		
Tatham & Brother, for Sheet Lead, .	34 86		
George Zantzinger, for Cement, . .	24 00	1,100 88	
Incidentals.			
Wages for February, . . .	1,497 30		
Do.	3 00		
W. G. Cochran, for Sundries, . .	34 50		
S. Williams, for Lamp Black, , .	1 50		
Wm. Hillary, for Drugs, . . .	2 86		
George Kline, for Hay, . . .	28 25		
J. Firth, for Spittoon, . . .	31		
Wm. Steen, for Expenses to Foundry,	20		
George Noble, for Powder, . .	1 14		
M. Shaw, for Cotton, ...	13		
Carrick & Sloan, for Hogsheads, .	6 25		
J. T. Bowers, for Cards, . . .	20 00		
James Green, for Carriage Hire, .	1 50	1,596 94	17,081 49

CERTIFICATE NO. 288.

Works.			
March 25th.			
Carrick & Sloan, for Carting, . .	27 39		
Dennis Kennedy, for Stonemasons work,	300 00	327 39	
Street Mains.			
Carrick & Sloan, for Carting, . . .		15 12	
Amounts carried forward, - -		$342 51	$101,503 03

CERTIFICATE NO. 288.—*Continued.*

Amounts brought forward, . . .		$342 51	$101,503 03
March 25th.			
Gas.			
Carrick & Sloan, for Carting, . .	209 30		
U. S. Customs, for Duties on Coal,	277 20		
Do. do. .	81 20		
Do.	39 50		
A. S. Wooldridge, for C	4,000 66		
Patton & Reynolds, for	1,145 32	5,753 18	
Reeves, Buck & Co., fo	1,339 00		
William A. Wells, for I	79 13		
Merrick & Sons, for Ca	3,000 00	4,418 13	
James West, for Horse	10 12		
George Wilent, for Taxes, . . .	159 26		
Wm. G. Mentz, Tres. for Rent, . .	150 00	319 38	10,833 20

CERTIFICATE NO. 289.

Works.			
April 8th.			
Wages for March, . . .	606 01		
Carrick & Sloan, for Carting, . .	3 24		
Thomas Collins, for do. . .	153 00	762 25	
Street Mains.			
Carrick & Sloan, for Carting, . .		31 50	
Services.			
Wages for March, ...	566 78		
Morris Tasker & Morris, for Iron Tubing, &c.	1,300 00		
Wm. Munsig, for Cocks and Bends,	145 51	2,012 29	
Gas.			
Wages for March, ...	3,315 46		
Carrick & Sloan, for Carting, . .	142 30		
Henry Beeler, for Oyster Shells, . .	607 10		
George M'Henry & Co., for Freight, .	111 65		
Thomas Richardson & Co. for Coal, .	35 96	4,212 47	
Amounts carried forward,		$7,018 51	112,336 23

CERTIFICATE NO. 289.—*Continued.*

Amounts brought forward, . . .		$7,018 51	$112,336 23
April 8th.			
Repairs.			
Wages for March, . . .	1,251 29		
Henry J. Carr, for Fire Clay, . .	97 60		
Morris Tasker & Morris, for Tubing, &c.	42 93		
Reeves, Buck & Co., for Nails, . .	11 20		
H. Buckhardt, for File Handles, .	4 50		
Ashburner & Blackiston, for Lath,	35		
J. W. Simes & Sons, for Glass, . .	50		
C. Carl, for Hinges, ...	10		
Samuel Hewitt, for Birch Brooms, .	6 88		
A. Boyer, for Hammer Handles, .	85		
M. A. Reed, for Wire, . . .	1 00		
A. Weaver, for Coopering, . . .	37		
E. Fry, for Buckets, . . .	3 00	1,420 57	
Incidentals.			
Wages for March, . . .	1,970 38		
Carrick & Sloan, for Carting, .	54 80		
White & Co., for Advertising, .	10 00		
J. Henry Buckley, for Report Lighting,	12 00		
Bullock & Crenshaw, for Glass Tube,	1 31		
R. R. Shaw, for Muslin, . . .	4 73		
J. Thornley, for India Rubber, . .	62		
J. M. Cash, for Cylinders, . . .	3 00		
R. L. Jeffries, for Stencils, . . .	1 25		
N. A. and Evening Bulletin, for Papers with Advertisements, ...	19		
G. W. Baker, for Tacks, . . .	08		
W. Penrose, for Guaging Casks, .	1 13		
A. Weaver, for Coopering do. . .	2 13		
F. Blackmoore, for Keys, . . .	50		
C. Amsler, for Specific Gravity Bag,	3 50		
Daniel Dougherty, for Dirt, . .	44		
B. F. Kern, for Screw, . . .	07	2,066 13	10,505 21

CERTIFICATE NO. 290.

Works.

April 22d.			
Carrick & Sloan, for Carting, . .	3 00		
Dennis Kennedy, for Stonemason Work,	300 00		
Reeves, Buck & Co., for Nails, . .	56 00	359 00	
Amounts carried forward, . .		$359 00	$122,841 44

CERTIFICATE NO. 290.—*Continued.*

Amounts brought forward, . . .		$ 359 00	$ 122,841 44
April 22d.			
Street Mains.			
Carrick & Sloan, for Carting, . . .	36 25		
Forsyth & Brother, for	289 80		
Wm. P. Cresson & Co.,	3 64	329 69	
H. & A. Cope & Co., for	221 76		
Carrick & Sloan, for Ca	195 82		
George Woodward, for	461 40		
S. Baldwin & Co.,	375 24		
Thos. Richardson & Co.	1,035 30		
William Ryon,	331 45		
S. M. Waln & Co.,	5,001 83		
Patton & Reynolds, do. . .	1,121 00		
Siter, James & Co., do. . .	755 60		
Dutilh, Humphrey & Co., do. . .	1,805 93	11,305 33	
Repairs.			
Reeves, Buck & Co. . . .	19 76		
Merrick & Son, for Castings, . .	3,937 83		
J. & T. L. Berry, for Fire Brick, .	4,186 30	8,143 89	
Incidentals.			
Carrick & Sloan, for Carting, . .	46 90		
F. Locke, for Alcohol, . . .	150 72	197 62	20,335 53

CERTIFICATE NO. 291.

Works.			
May 13th.			
Wages for April, ...	1,085 92		
Dennis Kennedy, for Stonemason Work,	100 00		
M. M'Minamie, for Leatherwork,	24 00		
Dennis Kennedy, for Stonemason Work,	200 00		
Thomas Collins, for Carting, . .	126 00		
Colton, Code & Co., for Station Meter,	1,500 00		
L. Augustine, for Pumps, . . .	69 00	3,104 92	
Street Mains.			
Wages for April, . . .	681 15		
Carrick & Sloan, for Carting,	89 00	770 15	
Amounts carried forward,		$ 3,875 07	$ 143,176 97

CERTIFICATE NO. 291.—*Continued.*

Amounts brought forward, . . .			$3,875 07	$143,176 97
May 13th.				
	Services.			
Wages for April, ...		569 50		
N. Kohlenkamp, for Meters, . .		780 90		
Colton, Code & Co., for do. . .		1,837 15	3,187 55	
	Gas.			
Wages for April, ...		3,090 54		
Carrick & Sloan, for Carting, . .		139 78		
Willis Carver, for Freight, . .		302 13		
Henry Bealer, for Oyster Shells, .		175 90		
E. D. Reed, for Freight, . .		253 93		
S. M. Waln & Co., for Coal, . .		3,655 67		
Do. do. . .		2,853 18		
Atkins & Co., do. . .		1,282 32		
Do. do. . .		1,040 39		
Lewis & Butler, do. . .		1,728 65		
John M'Hale, for Hoisting Coal, .		13 75		
Patrick Howard, do. do. .		2 50		
S. Flannagan, for Towing, . .		13 00		
Do. do. . .		13 00	14,564 74	
	Repairs.			
Wages for April, ...		1,033 23		
M. M'Minamie, for Saddlery, . .		12 25		
L. Augustine, for Tin Work, . .		10 37		
Colton, Code & Co., for Repairing Meters,		1,090 80		
Wm. Callahan, for Wrought Nails,		6 50	2,153 15	
	Incidentals.			
Wages for April, . . .		1,697 33		
Do.		10 00		
Carrick & Sloan, for Carting, . .		17 90		
T. K. & P. G. Collins, for Rent, .		87 50		
Charles Raynor, for Oats, . .		67 50		
Henry Sailor, for Water Rent, .		11 00		
Lacey & Phillips, for Saddlery, .		125 05		
John Kingston, for Ground Rent. .		23 57		
John Diehl, City Agent, for Rent,		1,895 00		
Thos. Dorsey, for Sundries for Committee of Councils, ...		66 65		
A. Stone, for Hemp Hose, . .		10 00		
William G. Walter, for Iron Punch,		45	4,011 95	
Amounts carried forward, . .			$27,792 46	$143,176 97

CERTIFICATE NO. 291.—*Continued.*

Amounts brought forward, . .		$27,792 46	$143,176 97
May 13th,			
Incidentals.			
E. H. Shearer, for Hay, . . .	23 10		
David Duncan, for Coal, . . .	4 25		
John Carrick, for Powe .	64		
F. Blackmoore, for Key,	25		
Samuel C. Thompson, f	3 00		
Hugh Moore, for Carri	1 50	32 74	27,825 20

NO. 292.

May 27th.			
Carrick & Sloan, for Carung, . .	64 90		
Isaac Steen, for Freight, . . .	50 00		
Dennis Kennedy, for Stonemason Work,	200 00		
Edward Wilmer, do.	200 00		
Thomas Deacon, for Freight, . .	53 00		
Reeves, Buck & Co., for Nails, . .	8 74		
J. & B. Orne, for Carpet and Matting,	138 06		
George Elliott, for Tin Work, . .	83 00		
Dennis Kennedy, for Stonemason Work,	200 00		
John C. Leiper, do. do.	500 00		
Reeves, Buck & Co., for Nails, .	55 90		
Merrick & Son, for Casting, . .	2,650 00	4,203 60	
Street Mains.			
Carrick & Sloan, for Carting, . .	121 50	121 50	
Gas.			
Carrick & Sloan, for Carting, . .	127 80		
P. G. Vorrhis, for Freight, . .	297 15		
Siter, James & Co., for Coal, . .	297 29		
S. M. Waln & Co., do. .	4,531 07		
Dutilh, Humphreys & Co., do. .	1,734 63		
Patton & Reynolds, do. .	744 91		
Harris & Leech, do. .	1,869 70		
Bingham & Dock, do. .	2,321 48		
Jarvis Smith, for Freight, . .	194 32		
M. S. Gates, do. . .	465 67	12,584 02	
Amounts carried forward, . .		$16,909 12	$171, 02 17

CERTIFICATE NO. 292.—*Continued.*

Amounts brought forward, , .		$16,909 12	$171,002 17
May 27th.			
Repairs.			
Carrick & Sloan, for Carting, . .	1 80		
J. P. & W. Wetherill, for Oil, . .	87 01		
J. & B. Orne, for Matting, . .	12 00		
George Elliott, for Tin and Lead Work,	255 00		
F. Meyers, for Scales, . . .	70 00		
Merrick & Son, for Castings, . .	3,000 00	3,425 81	
Incidentals.			
Carrick & Sloan, for Carting, . .	30 80		
Swaim, Abel & Simmons, for Advertising,	46 92		
Jerry Walker, for Sundries, . .	49 00		
George Elliott, for Tin Work, . .	14 45		
William Felt, for Drawing Paper, .	18 60	159 77	20,494 70

CERTIFICATE NO. 293.

Works.			
June 10th.			
Wages for May, . . ; .	1,102 80		
Thomas Deacon, for Freight, . .	55 00		
Carrick & Sloan, for Carting, .	18 24		
Dennis Kennedy, Stonemason Work,	200 00		
A. L. Archambault, for Pump,	48 00		
Thomas Collins, for Carting, . .	114 00		
Edward Wilmer, for Stone, . .	125 00		
William Griffith, for Oar Poles, . .	60 00		
Merrick & Son, for Gasholder Frame,	4,080 00	5,803 04	
Street Mains.			
Wages for May, . . .	1,238 52		
Carrick & Sloan, for Carting, . .	77 50		
Lewis, James & Co., for Lead, .	487 57		
N. Trotter, do. . .	893 90	2,697 49	
Services.			
Wages for May, ...	721 12		
James M. Snowden, for Lumber,	83 23		
Archer & Warner, for Burners.	22 12	826 47	
Amounts carried forward, - - -		$9,327 00	$191,496 87

CERTIFICATE NO. 293.—*Continued.*

Amounts brought forward,		$9,327 00	$191,496 87
June 10th.			
Gas.			
Wages for May,	2,960 18		
Carrick & Sloan, for Carting,	234 54		
C. S. Godfrey, for Frei	263 85		
S. Hammond, do	314 21		
Atkins & Co., for Coal,	990 55	4,763 33	
Wages for May,	910 15		
J. O. Whitaker, for Lu	18 51	928 66	
ls.			
Wages for May,	1,720 30		
McMichael & Bird, for Advertising,	25 00		
Carrick & Sloan, for Carting,	37 50		
L. R. Bailey, for Printing Report,	62 99		
G. M'Mullin, for Water Rent,	600 00		
E. C. Pratt & Brother, for Stationery,	9 79		
Bart Gray, for Ploughing,	72 00		
Crissy & Markley, for Printing, &c.,	77 50		
George Wilent, for Taxes,	79 00	2,684 08	17,703 07

CERTIFICATE NO. 294.

Works.

June 24th.			
Carrick & Sloan, for Carting,	3 75		
John C. Leiper, for Stone,	500 00		
J. P. Morris & Co., for Retort House Castings,	1,000 00		
Thomas Deacon, for Freight,	110 00		
Merrick & Son, for Gasholder Frame,	7,327 86		
Edward Wilmer, for Stone,	150 00		
Dennis Kennedy, for Stonemason Work,	150 00		
William Patterson, for Leather,	6 00	9,247 61	
Street Mains.			
Carrick & Sloan, for Carting,	74 25		
Thos. Birch, City Commissioner, for Paving,	312 85		
P. F. Brady, for Ship Chandlery,	12 30	399 40	
Amounts carried forward,		$9,647 01	$209,199 94

CERTIFICATE NO. 294.—*Continued.*

Amounts brought forward, - -		$9,647 01	$209,199 94
June 24th.			
Services.			
Thos. Birch, City Commissioner, for Paving,		176 95	
Gas.			
W. R. Newcomb, for Freight, .	243 67		
M. C. Frambers, do. . .	309 63		
Carrick & Sloan, for Carting, . .	171 50		
P. F. Brady, for Freight, . .	254 70		
E. Kellam, for Towing, . . .	7 00		
M. Sloan, for Weighing Coal, . .	10 00		
Clayton Leeds, for Freight, . .	248 24		
Sameul Overlin, do. . .	206 55		
Captain Cramer, do. . .	169 61	1,620 90	
Repairs.			
Reeves, Buck & Co., for Nails, .	40 00		
William O'Neill, for Buckets, . .	15 15		
Abbott & Co., for Repairs to Scales,	8 50		
Francis Blakeman, do. Lock, .	18		
Conolly & Baldwin, for Oil Foots,	3 00		
Samuel Hewitt, for Birch Brooms,	4 25		
P. F. Brady, for Ship Chandlery,	14 06	85 14	
Incidentals.			
Carrick & Sloan, for Carting, . .	12 05		
Thomas Akers & Sons, for Queensware,	8 62		
B. Wilson, for injury to Horses, .	20 00		
Lane & Co., for Coachmaking, .	125 00		
Wm. G. Mentz, Tres. for Rent, .	150 00		
Do. for Stationery, .	21 00		
George Noble, for Whist Brooms,	25		
A. Weaver, for Coopering, . .	13 62		
W. Penrose, for Guaging, . . .	75		
C. Engle, for Ship Stuff, . . .	7 50		
D. Landreth, for Corn, - - -	1 25		
N. Trotter & Co., for Copper Tacks,	50		
David Duncan, for Coal, - - -	8 50		
Theo. Attender, for Dividing Rulers,	6 00		
C. S. Rand, for Vestas, - - -	2 00		
Telegraph Despatch, - - -	65		
R. K. Shaw, for Woolen Yarn. - -	06		
A. Rankin, for Spear Box, - -	1 25	379 00	
Amounts carried forward, - -		$11,909 00	$209,199 94

CERTIFICATE NO. 294.—*Continued.*

Amounts brought forward, - -		$11,909 00	$209,199 94
June 24th.			
Incidentals.			
John Carrick, for Hogsheads, -	1 00		
Hiram Mosler, for Ice, - - -	5 31		
William M'Knight, for Spirit Level Bulbs,	19		
D. Smith, for Shingles,	60		
Adams & Co., for Freig -	50		
William H. French, for	1 00		
M'Allister & Brother, f	3 60		
Mrs. Ferrand, for Sund	3 00		
P. F. Brady, for Ship Cr	22 14	37 34	11,946 34

(NO. 295.

July 8th.			
Wages for June, - - - - -	1,237 57		
L. Augustine, for Tin Work, -	100 00		
Caleb Scattergood, for Bricklaying,	125 00		
Carrick & Sloan, for Carting,	3 90		
Edward Wilmer, for Stone, -	200 00		
Hoopes & McIllvain, for Sand, -	18 40		
Edward Wilmer, for Stone. -	477 00		
Thomas Collins, for Hauling Stone,	100 00		
Isaac Steen, for Freight, - - -	90 00		
Thos. Collins, for Carting, - - -	195 64		
Dennis Kennedy, for Stonemason Work,	200 00		
J. Firth, for Lanterns, . . .	6 00		
E. T. Hyatt, for Air Hose, - -	4 10		
D. M'Garry, for Lime, - - - -	3 40		
E. Kellam, for Carting, - - -	6 00	2,767 01	
Street Mains.			
Wages for June, - - - - -	1,279 62		
Carrick & Sloan, for Carting, - -	159 75		
D. C. Levy, for Lead, - - -	1,796 71		
A. H. Hinckle & Son, for Packing Yarn,	225 50		
William Steen, for Expenses Proving Pipe,	5 95	3,467 53	
Services.			
Wages for June, - - - - -	730 91		
Do. - - - - - -	20 00		
Faulkner & Lewis, for Cocks, -	400 00		
Colton, Code & Co. for Meters, -	3,612 90	4,763 81	
Amounts carried forward, - -		$10,998 35	$221,146 28

CERTIFICATE NO. 295.—*Continued.*

Amounts brought forward, - -			$10,998 35	$221,146 28
July 8th.				
Gas.				
Wages for June, - - - - -	3,136	44		
Carrick & Sloan, for Carting, - -	142	82		
Lewis Giebel, for Freight, - -	207	62		
S. F. Brady, do. - - -	111	22		
Henry Beeler, for Oyster Shells, -	383	10		
R. H. Huntly, for Freight, - -	297	75		
Atkins & Co., for Coal, - - -	999	74	5,278 69	
Repairs.				
Wages for June, - - - - -	1,346	08		
Carrick & Sloan, for Carting, - -	27	75		
T. P. M'Donough, for Tap, - -	1	62		
Captain Bartram, for Freight, - -	55	00		
Hoopes & M'Ilvain, for Sand, - -	6	65		
Adam Weaver, for Coopering, - -	10	21		
Samuel Hewitt, for Birch Brooms,	6	12		
F. Blackman, for Fitting Keys, -		50		
George W. Watson, for Grease, -	1	00		
William H. Jones, for Repairing Buckets,		50		
Colton, Code & Co., for Meters, -	653	50	2,108 93	
Incidentals.				
Wages for June, - - - - -	1,983	10		
Do. - - - - -	1	00		
Prouty & Barrett, for Farming Utensils,	14	15		
Carrick & Sloan, for Carting, -	8	70		
Parrish, Dunning & Mears, for Stationery,	25	87		
J. Henry Bulkley, for Report Lighting,	12	00		
Adam Weaver, for Coopering, - -	8	50		
Mary O'Donnell, for Meals for Workmen,	5	18		
R. K. Shaw, for Canvass, - - -	2	26		
Dallett & Brother, for Soap, - -	5	50		
George Noble, for Salt and Charcoal,		37		
Charles Mann, for Hay, - -	19	80		
James Dobbin, for Oatmeal and Salt,	2	31		
S. Ferrand, for Sundries for Board, -	3	60		
A. M. Lewis, for Ship Stuff, - -		45		
J. W. Williams, for Water Colours,	3	37		
George Elliott, for Wire, - -		25		
E. Engle, for Horse Feed, - -	7	50		
James Green, for Carriage Hire,	1	50		
P. M'Garry, for Lime, - - -		12	2,105 53	20,491 50
Amount carried forward, - -				$241,637 78

Amount brought forward, - - $241,637 78

CERTIFICATE NO. 296.

Works.

July 22d.		
Carrick & Sloan, for Carting, -	3 00	
Reuben Lukens, for Lime, - -	300 00	
J. W. Simes & Sons, for	90 19	
And. Lane, for Freight,	55 00	
Allen & Brother, for Plas	200 00	
C. Blackiston, for Cemen	139 25	
G. W. Metz & Son, for I	17 00	
Maul & Brother, for Lur	175 35	
S. P. Hancock, for Brick	77 00	
Joseph S. Keene & Sons,	1,200 94	
Dennis Kennedy, for Sto	200 00	
Reeves, Buck & Co., for	60 00	
Faulkner & Lewis, for P.	51 00	2,563 73

Street Mains.

Carrick & Sloan, for Carting, -	87 25	
Joseph S. Keene & Sons, for Lumber,	6 45	93 70

Services.

Wright & Hunter, for Plumbing,	108 15	
William Yarnall, for Hardware,	15 50	
Robert Thompson, for Paving,	311 87	
Colton, Code & Co., for Meters,	1,514 03	
A. Harris & Co., do. -	1,479 15	
I. & H. Jones, for Cocks, - -	740 05	
Morris, Tasker & Morris, for Tubing,	608 09	
Garrett Randolph, for Casting, - -	18 50	
Faulkner & Lewis, for Cocks, - -	457 37	5,252 71

Gas.

Hamilton Tooks, for Freight, -	278 77	
Carrick & Sloan, for Carting, -	157 60	
C. W. Parks, for Freight, - -	117 52	
U. S. Customs, for Duties, - -	129 50	
James Kouse, for Freight, - -	257 02	
John H. Long, do. - -	769 30	1,709 71

Repairs.

F. Meyers & Co., for Repairing Scales,	2 75	
J. W. Simes & Sons, for Paints, &c.	100 20	
Wright & Hunter, for Plumbing, . .	7 50	
Geo. W. Metz & Son, for Brushes, &c.	14 86	125 31
Amounts carried forward, . .		$9,750 16 241,637 78

CERTIFICATE NO. 296.—*Continued.*

Amounts brought forward, . .		$9,750 16	241,637 78
July 22d.			
Repairs.			
William Yarnall, for Hardware, . .	148 06		
S. P. Hancock, for Bricks, . . .	53 65		
Joseph S. Keene & Sons, for Lumber,	118 05		
Reeves, Buck & Co., for Nails, . .	96 30		
Cook & Durbin, for Rivetts, . .	10 90		
Lane & Co., for Repairs to Carriage,	42 12		
Faulkner & Lewis, for do. Engine,	72 71	541 79	
Incidentals.			
Prouty & Barrett, for Farming Implements,	19 01		
David M. Hogan, for Stationery,	20 86		
Carrick & Sloan, for Carting, - -	21 20		
William Wallace, for Horse Shoeing,	10 75		
J. W. Simes & Sons, for Drugs, &c.	9 00		
C. Blackiston, for Straw, - -	13 67		
Crissy & Markley, for Stationery,	28 50		
T. K. & P. G. Collins, for Rent, -	87 50		
A Cummings, for Subscription and Advertising,	20 00		
Colton, Code & Co., for Brass Castings,	11 50		
Durnall & Reese, for Police Expenses,	25 00		
James K. Flannagan, for Advertising,	15 00		
Robert Donnell, for Groceries,	12 13		
Patrick Kane, for Farriery,	10 50	304 62	10,596 57

CERTIFICATE NO. 297.

Works.

August 12th.			
Wages for July, - - - -	$1,817 86		
Carrick & Sloan, for Carting, -	46 50		
James Monroe, for Bricks, - -	136 20		
J. P. Morris & Co., for Retort House Castings,	1,831 74		
F. G. Smith, for Powder and Fuze,	25 37		
Edward Wilmer, for Stone, - -	55 00		
Pemberton Smith, for Hardware,	10 31		
Thomas Collins, for Carting, - -	290 00		
Allen & Brother, for Plaster and Cement Work,	200 00		
Caleb Scattergood, for Bricklaying,	225 00		
Clifford Smith, for Iron, - - -	105 00		
Eli Kellam, for Towing, - - -	11 00		
John Gallagher, for Oar Poles, - -	2 00	4,755 98	
Amounts carried forward, . .		$4,755 98	252,234 35

CERTIFICATE NO. 297.—*Continued.*

August 12th.

Amounts brought forward . .		$4,755 98	$252,234 35

Street Mains.

Wages for July, - -	1,006 02	
Carrick & Sloan, for Ca[illegible] .	10 00	1,016 02
Wages for July, -	840 20	
C. Gefrorer, for Burners,	21 00	861 20
Wages for July, - . -	2,594 62	
Carrick & Sloan, for Carting, - -	227 80	
L. C. Phifer, for Freight, - - -	154 72	
Atkins & Co., for Coal, - - -	1,150 64	
N. S. Veasey, for Freight, - - -	441 67	
John Hess, do. - - -	154 95	
Stephen Ricker, do. - - -	314 55	
Samuel W. Weer, do. - - -	206 08	
Daniel Rogers, do. - - -	384 00	5,628 43

Repairs.

Wages for July, ...	1,020 40		
James J. Goodwin, for Freight, -	65 62		
Joseph H. Amer, for Repairing Hoisting Machine, - - - - -	44 63		
Pemberton Smith, for Hardware,	64 06		
Charles Vanhorn & Co., for Grinding Brick,	10 30		
F. C. Jones, for Zinc Paint,	28 00		
Samuel W. Weer, for Painting, -	15 00		
Richards & Brother, for Glass, -	15 65		
T. & E. George, for Iron, - -	147 18		
Clifford Smith, do. - -	690 81		
Daniel T. Applegate, for Brickwork,	23 75		
Franklin Eyre, for Repairing Wharf,	340 00		
C. Gefrorer, for Burners, - -	11 75		
Joseph S. Keene & Sons, for Picketts,	1 00		
Robinson & Co., for Sledge Handle,	75	2,478 85	
Amounts carried forward, .		$14,740 48	252,234 38

CERTIFICATE NO. 297.—*Continued.*

Amounts brought forward,		$ 14,740 48	$252,234 35
August 12th.			
Incidentals.			
Wages for July,	1,798 94		
William H. Maurice, for Stationery,	71 76		
J. S. M'Mullin, for State Tax,	570 00		
Carrick & Sloan, for Carting,	26 20		
Edward Trimmer, for Carriage Hire,	77 50		
Howell Evans, for Stationery,	10 00		
Charles Raynor, for Oats,	22 50		
Seth Craig, for Rent,	168 00		
A. H. Lewis, for Horse Feed,	90		
Mary Dougherty, for Washing,	1 00		
Patrick Brady, for Barrels,	4 37		
N. & G. Taylor, for Copper Tacks,	62		
E. Engle, for Horse Feed,	3 60		
Thompson Black, for Candles,	1 00		
F. Blackmoore, for Fitting Keys,	75		
M. M'Minimin, for Saddlery,	10 44		
William Brown, for Carting,	50		
William Ferrand, for Sundries for Board,	1 00		
C. Weldon, for Carriage Hire,	5 00		
Dennis Toner, for do.	1 50	2,775 58	17,516 06

CERTIFICATE NO. 298.

Works.			
August 26th.			
Carrick & Sloan, for Carting,	25 87		
Dennis Kennedy, for Stone-mason work,	300 00		
Tatham & Brother, for Lead Pipe,	273 37		
S. Flannagan, for Towing,	7 00	606 24	
Street Mains.			
Carrick & Sloan, for Carting,	14 25		
Thomas Birch, City Commissioner, for Paving,	90 35	104 60	
Services.			
Thomas Birch, City Commissioner, for Paving,		130 10	
Amounts carried forward,		$ 840 94	$269,750 41

CERTIFICATE NO. 298.—*Continued.*

Amounts brought forward, - - - -		$ 840 94	$269,750 41
August 26th.			
Gas.			
John Gifford, for Freight, - -	278 77		
Carrick and Sloan, for Carting, -	541 93		
Atkins & Co., for Coal, - - -	316 13		
Captain Pluney, for Freight, - -	212 25		
George W. Hallett, do. - -	303 60		
G. P. Bearse, do. - -	312 08		
Daniel Howall, do. - -	182 55		
U. S. Customs, for Duties, - -	161 60		
Heron & Martin, for General Average,	73 27		
U. S. Customs, for Duties, - -	436 80		
Do. do. do. - - -	109 10	2,928 08	
Repairs.			
William P. Walter, for Hardware, -	38 66		
George Nixon, for Vise, - - -	4 50		
Cornelius, Baker & Co., for Iron Borings, &c.	52 94	96 10	
Incidentals.			
Carrick & Sloan, for Carting, - -	16 80		
T. K. & P. G. Collins, for Rent of Shop,	10 97		
Patrick M'Anulty, for Carriage Hire,	4 00		
Siter, James & Co., for Oats, - -	45 00		
Thos. Birch, City Commissioner, for Rent,	1,895 00		
Dennis M'Canly, for Wood, - -	22 87	1,994 64	5,859 76

CERTIFICATE NO. 299.

Works.			
September 9th.			
Wages for August, - - - -	1,781 76		
Carrick & Sloan, for Carting, - -	31 00		
Merrick & Sons, for Castings, - -	2,500 00		
Caleb Scattergood, for Bricklaying,	100 00		
George Russell, for Lumber, - -	1,025 10		
Thomas Collins, for Carting Stone, -	150 00		
Do. do. -	72 00		
P. F. Brady, for Ship Chandlery, - -	71 00		
Joseph H. Amer, for Gasholder, -	1,000 00		
E. Kellam, for Towing, - - -	2 00	6,732 86	
Street Mains.			
Wages for August, - - -	459 30		
Carrick & Sloan, for Carting, - -	35 00	494 30	
Amounts carried forward, - -		$7,227 16	$275,610 17

CERTIFICATE NO. 299.—*Continued.*

Amounts brought forward, - -			$ 7227 16	$275,610 17
September 9th.				
Services.				
Wages for August, - - -			900 94	
Gas.				
Wages for August, - - - -		3,315 42		
Carrick & Sloan, for Carting, - -		280 52		
Captain Tibbetts, for Freight, - -		616 00		
U. S. Customs, for Duties, - - -		131 00		
Isaac Lapham, for Freight, - -		788 12		
George Stanley, do. - -		203 20		
E. G. Parker, do. - -		683 67		
A. Coleman, Jr., do. - -		517 87		
Charles Kelley, do. - -		298 88		
William R. Hatchett, do. - -		22 75		
Q. Lippincott, for Oyster Shells, -		1 20		
J. H. Dill, for Freight, - - -		240 64	7,099 27	
Repairs.				
Wages for August, - - - -		902 64		
James Heekman, for Repairing Scow,		100 00		
George Russell, for Lumber, - -		295 57		
Nathan Trotter, for Tin, - - -		45 65		
M. W. Severn, for Mica, - -		6 00		
Samuel Hewitt, for Birch Brooms,		12 52		
G. W. Baker, for Hammer Handles, -		6 00	1,368 38	
Incidentals.				
Wages for August, - - - -		1,622 60		
Do. - - - - - -		3 00		
Carrick & Sloan, for Carting, - -		8 00		
Peter Bobb, for Repairing Long Lane,		100 00		
P. F. Brady, for Ship Chandlery, - -		16 25		
John Penrose, for Sundries for Board,		6 00		
John Smith, for Map, &c. - - -		5 00		
J. S. Dehaven, for Oat Meal, - -		70		
H. Deame, for Fly Nett, - - -		3 25		
H. Mosler, for Ice, - - -		12 60		
J. Firth, for Pitchers, - - -		31		
J. Dehaven, for Cord, - - - -		19		
R. Dolan, for Putting Cars on Track,		1 00		
George Starr, for Carriage Hire,		3 00		
Thomas Collins, do. do. -		1 50		
John Thompson, for Affidavits, - -		50		
Perkins & Co., for Muslin, - - -		1 69		
J. H. Ferrand, for Sundries for Board,		1 00	1,786 59	18,382 34
Amount carried forward, - -				$293,992 51

Amount brought forward, - - - -			$293,992 51

CERTIFICATE NO. 300.

Works.

September 23d.			
Charles Blackiston, for Cement, -	225 00		
Carrick & Sloan, for Carting, -	5 25		
Caleb Scattergood, for Bricklaying,	225 00		
Joseph H. Amer, for Gasholder, -	5,000 00		
Dennis Kennedy, for Stonemason Work,	300 00		
Thomas Collins, for Carting, - -	100 00	5,855 25	

Services.

Carrick & Sloan, for Carting, - - - -		34 75	

Gas.

Nathan Gamage, for Freight, - -	645 00		
Carrick & Sloan, for Carting, - -	660 06		
Abm. Brockett, for Freight, - -	202 40		
U. S. Customs, for Duties, . .	162 40		
Joseph Lawrence, for Freight, - -	159 30		
P. F. Brady, do. . .	149 10		
J. B. Sovy, do. - -	238 88		
Benj. F. Herriman, do. - -	770 75		
Baker & Stetson, do. - -	374 12		
Do. do. do. - -	253 00		
L. Cunard, for Coal, - - -	418 00		
P. F. Brady, for Freight, - - -	203 76		
A. Smith, do. - -	245 70		
L. B. Edwards, do. - - -	198 64	4,681 11	

Repairs.

Carrick & Sloan, for Carting, - -	7 00		
Merrick & Son, for Castings, - -	5,000 00		
W. Gallagher, for Harness, - -	29 87	5,036 87	

Incidentals.

Carrick & Sloan, for Carting, - -	5 00		
Wm. Mann, for Patent Binders, -	14 75		
Reeves, Buck & Co., for Nails, -	43 20		
Wm. G. Mentz, Treas. for Rent, -	150 00	212 95	15,820 93
Amount carried forward, - - -			$309,813 44

Amount brought forward, - - -			$309,813 44

CERTIFICATE NO. 301.

Works.

October 14th.

Wages for September, - - -	1,560 25	
Dennis Kennedy, for Stonemason Work,	300 00	
Caleb Scattergood, for Bricklaying,	100 00	
Thomas Collins, for Carting, . .	90 00	
John H. Swaby & Co., for Cement,	104 25	
J. P. & W. Wetherill, for Oil, . .	30 60	
Caleb Scattergood, for Bricklaying,	200 00	
Dennis Kennedy, Stonemason Work,	200 00	
E. Kellam, for Towing, . . .	4 00	
John C. Leiper, for Stone, . .	500 00	3,089 10

Street Mains.

Wages for September, - - -	984 62	
Carrick & Sloan, for Carting, -	10 50	
Wm. Steen, for Expenses Proving Pipe,	5 00	
E. T. Hyatt, for Air Bags, - - -	9 75	1,009 87

Services.

Wages for September, - - -	752 12	
Morris, Tasker & Morris, for Tubing,	710 09	
Colton, Code & Co., for Meters,	2,500 00	3,962 21

Gas.

Wages for September, - - -	3,702 40	
Carrick & Sloan, for Carting, -	754 40	
E. G. Stimper, for Freight, - -	631 12	
George M'Clure, do. - -	844 75	
Henry Noonman, do. - -	302 24	
U. S. Customs, for Duties, - -	284 40	
A. H. Carson, for Freight, - -	263 62	
Emery Berry, do. - -	771 00	
U. S. Customs, for Duties, - -	17 10	
Thomas Allibone, for Rosin, - -	225 00	
Charles H. Harwood, for Freight, -	545 00	
S. P. Rightney, for Towing, - -	36 00	
Jane Armstrong, for Oyster Shells, -	10 50	
John M'Hale, for Hoisting Coal, -	2 50	
U. S. Customs, for Duties, - -	305 90	8,695 93
Amounts carried forward, - -		$16,757 11 $309,813 44

CERTIFICATE NO. 301.—*Continued.*

Amounts brought forward, - -		$16,757 11	$309,813 44
October 14th.			
Repairs.			
Wages for September, - - -	893 60		
Morris, Tasker & Morris, for Tubing, &c.,	89 10		
Carrick & Sloan, for Carting, - -	23 00		
Daniel Applegate, for Building Forge,	18 00		
Alexander Rankin, for Pumps, -	12 23		
Reeves, Buck & Co., for Nails, - -	52 80		
J. P. & W. Wetherill, for Oil, - -	75 00		
Thomas Allibone & Co, for Oil, - -	56 70		
S. P. Warner, for Repairing Lantrens,	3 90		
J. S. M'Innis, for Lime, - - -	1 80		
Matthew Newkirk, for Mica, - -	3 00		
Alexander M'Dougel, for Blocks, -	5 00		
J. S. Goodwin, for Freight, - - -	160 55		
Samuel Hewitt, for Birch Brooms, -	2 60		
William Cox, for Recutting Files,	5 00		
William Gallagher, for Mending Harness,	1 00	1,403 28	
Incidentals.			
Wages for September, - - -	1,785 05		
B. J. Williams, for Blinds, - -	10 25		
James B. Smith & Co., for Stationery,	69 00		
J. Henry Bulkley, for Report Lighting,	12 00		
John M'Laughlin, for Carriage Hire,	1 00		
Dallett & Brother, for Soap, - -	5 50		
John Penrose, for Sundries for Board,	1 50		
J. H. Williams, for Tracing Muslin,	4 94		
John M'Minamin, for Saddlery, - -	5 75		
E. Engle, for Horse Feed, - - -	15 00		
John Frame, for putting Cars on Track,	50		
J. Starr, for Sugar, - - - - -	1 40		
Andrew Kee, for Carriage Hire, - -	1 50		
J. H. Gillingham, for Ice, &c., - -	2 38	1,915 77	20,076 16

CERTIFICATE NO. 302.

Works.

October 28th.			
L. Augustine, for Tin Work, -	150 29		
Ingram Park, for Bricks, - -	369 25		
Carrick & Sloan, for Carting,	26 25		
Samuel R. Reed, for Wagon, - -	120 00	665 79	
Amounts carried forward, - -		$ 665 79	329,889 60

CERTIFICATE NO. 302.—*Continued.*

Amounts brought forward, - - -			$665 79	$329,889 60
October 28th.				
Works.				
George J. Buckhardt, for Cedar Tank,		69 75		
Caleb Scattergood, for Bricklaying, -		172 63		
Joseph H. Amer, for Gasholder, -		6,000 00		
Merrick & Son, for Castings, - - -		311 04	6,553 42	
Street Mains.				
Carrick & Sloan, for Carting, - - -			54 50	
Gas.				
Bergen Godfrey, for Freight, - -		273 30		
Carrick & Sloan, for Carting, - -		932 34		
Henry Beeler, for Oyster Shells, -		205 90		
D. & P M'Garry, for Lime, - -		22 85		
Elmon English, for Freight, - -		296 40		
M'Kay & Heathfield, for Coal, - -		407 00		
D. S. Wooldridge, do. - -		4,303 73	6,441 52	
Repairs.				
H. J. Carr, for Fire Clay, - -		141 20		
Robert Hutchinson, for Hose, - -		21 25		
Merrick & Son, for Retorts, - -		5,975 71	6,138 16	
Incidentals.				
Carrick & Sloan, for Carting, - -		26 80		
Patrick Kerran, for Horse Shoeing, -		22 50		
Edward Engle, for Horse Feed, - -		15 00		
Cookman & Brother, for Oats, - -		46 00		
Adam Weaver, for Coopering, - -		28 49		
John Diehl, City Agent, for Rent, - -		1,895 00	2,033 79	21,887 18

CERTIFICATE NO. 303.

Works.				
November 11th.				
Wages for October, - - - -		1,610 30		
Amos Walker, for Lumber, - -		353 75		
Thomas Collins, for Carting, - -		86 00	2,050 05	
Street Mains.				
Wages for October, - - -		1,793 88		
Carrick & Sloan, for Carting, . .		47 75	1,841 63	
Services.				
Wages for October, - - -		894 55		
Thomas Glover, for Meters, - -		149 60	1,044 15	
Amounts carried forward, - -			$4,935 83	$351,776 78

CERTIFICATE NO. 303.—*Continued.*

Amounts brought forward, . .		$4,935 63	351,776 78
November 11th.			
Gas.			
Wages for October, - - -	3,982 28		
Carrick & Sloan, for Carting, - -	403 54		
William S. Darnell, for Measuring Coal,	15 44		
John D. Sanders, for Freight, - -	242 05		
U. S. Customs, for Duties, - -	104 10		
E. Cunard, for Coal, - - - -	451 00		
Do. do. - - - -	423 50	5,621 91	
Repairs.			
Wages for October, - - - -	910 60		
Joseph H. Amer, for Castings, - -	160 77		
T. P. M'Donough, for Smith Work,	7 50	1,078 87	
Incidentals.			
Wages for October, - - - -	2,241 36		
Carrick & Sloan, for Carting, -	50 10		
Alex. Tower, for Rent, - - -	62 50		
William Roberts, for Barrels, - -	303 38		
James Kelley, for Stationery, - -	7 08	2,664 42	14,301 03

CERTIFICATE NO. 304.

Works.			
November 25th.			
Carrick & Sloan, for Carting, - -	28 50		
Caleb Scattergood, for Bricklaying,	50 00		
Martin Hines, for Bricks, - - -	104 70		
Ruben Lukens & Son, for Lime, -	133 50		
E. Kellam, for Towing, - - -	8 00		
William Brown, for Carting, - -	1 50		
Caleb Scattergood, for Bricklaying,	150 00		
I. P. Morris & Co., for Castings, - -	2,958 72	3,434 92	
Street Mains.			
Carrick & Sloan, for Carting, . . -		82 50	
Gas.			
Carrick & Sloan, for Carting, - .	259 61		
E. A. Souder & Co., for Coal, - -	139 06		
D. S. Wooldridge, do. - -	4,169 37		
Atkins & Co., do. - -	1,585 27		
Rogers & Reynolds, do. - -	892 85		
Lewis & Butler, do. - -	4,324 02		
Harris & Leech, do. - -	2,000 00	13,370 18	
Amounts carried forward,		$16,887 60	366,077 81

CERTIFICATE NO. 304.—*Continued.*

Amounts brought forward, - -		$16,887 60	$366,077 81
November 25th.			
Repairs.			
Carrick & Sloan, for Carting, - -	20 00		
A. C. Brown, for Chain Pumps, -	11 50		
Martin Hines, for Brick, - -	48 00		
Samuel Hewitt, for Birch Brooms,	8 25		
E. P. Coleman, for Bolts, - - - -	3 38		
J. C. Goodwin, for Freight, - -	80 75		
M. W. Sloan, for Mica, - - -	20 00		
G. W. Baker, for Hammer Handles,	4 50		
William Patterson, for Leather, - -	6 12		
Devine & Son, for Cotton Waste, -	25		
Reeves, Buck & Co., for Retorts, -	765 94	968 69	
Incidentals.			
David Duncan, for Coal, - - -	42 00		
T. J. Dohen, for Whist Broom, - -	10		
Joseph Jackson, for Expenses to Richmond,	20		
C. S. Rand, for Wax Vestas, - -	2 50		
Jacob G. Porter, for Guaging Casks,	1 75		
Penn. R. R. Company, for Freight,	2 57		
William Roberts, for Coopering Casks,	11 60		
F. Blackmore, for Keys, - - -	20		
John Coy, for Carriage Hire, - -	1 50		
Jerry Walker, for Sundries for Board,	16 50	78 92	17,935 21

CERTIFICATE NO. 305.

Works.			
December 9th.			
Wages for November - - -	1,540 92		
Hoopes & McIlvain, for Sand, -	19 40		
Carrick & Sloan, for Carting, -	8 25		
Thos. Collins, for Carting, - -	48 00		
S. P. Righter, for Towing, - -	4 00		
Joseph H. Amer, for Gasholder, -	2,000 00		
Dennis Kennedy, for Stonemason Work,	500 00	4,120 57	
Street Mains.			
Wages for November, - - -	1,683 37		
Thomas Birch, City Commissioner, for Paving, - - - - - -	527 00	2,210 37	
Amounts carried forward,		$6,330 94	384,013 02



CERTIFICATE NO. 305.—*Continued.*

Amounts brought forward,		$6,330 94	$384,013 02
December 9th.			
Services.			
Wages for November,	989 20		
Thomas Birch, City Commissioner, for Paving,	138 28	1,127 48	
Gas.			
Wages for November,	4,316 10		
Carrick & Sloan, for Carting,	329 80		
E. Cunard, for Coal,	401 50		
Bingham & Dock, for Coal,	3,730 53	8,777 93	
Repairs.			
Wages for November,	1,060 80		
Elijah Gibbs, for Baskets,	5 40		
Samuel Hewitt, for Birch Brooms,	30 84		
William Cox, for Recutting Files,	16 78		
J. C. Goodwin, for Freight,	156 75		
William Callahan, for Wrought Nails,	28 00		
B. F. Harris, for Dressing Anvil,	4 00		
Thomas Ellen, for Birch Brooms,	5 50		
George Halfman, for Shovels,	235 00		
Rowly & Ashburner, for Oil,	69 02	1,612 09	
Incidentals.			
Wages for November,	1,701 46		
Carrick & Sloan, for Carting,	7 50		
M'Michael & Bird, for Subscription and Advertising,	25 00		
M. W. Sloan, for Hogsheads,	75		
C. Fisler, for Sundries,	1 37		
L. Johnson & Co., for Type and Rules,	27 99		
M. Costello, for Brands,	2 62		
Adam Weaver, for Coopering,	16 93		
Dennis Toner, for Carriage Hire,	1 50	1,785 12	19,633 56

CERTIFICATE NO. 306.

Works.

December 23d.			
Carrick & Sloan, for Carting,	40 50		
Caleb Scattergood, for Bricklaying,	150 00		
Edward Evans, for Slating,	250 00		
M'Cullough & Co., for Galvinized Iron,	84 90		
Abraham Miller, for Cylinders,	419 00		
Joseph Amer, for Gasholder,	2,000 00	2,944 40	
Amounts carried forward,		$2,944 40	$403,646 58

CERTIFICATE NO. 306.—*Continued.*

Amounts brought forward,		$ 2,944 40	$403,646 58
December 23d.			
Street Mains.			
Carrick & Sloan, for Carting,	27 75		
Cowell & Co., for Pipes,	11,119 49	11,147 24	
Services.			
A. Harris & Co., for Meters,		522 50	
Gas.			
Carrick & Sloan, for Carting,	186 65		
Joseph Brady, for Oyster Shells,	258 70		
John Miller, for Coal,	140 36		
Rogers & Reynolds, for Coal,	1,149 81		
D. S. Wooldridge, do.	2,098 83		
Lewis & Butler, do.	4,062 47		
Cochran & Russell, for Rosin,	705 00	8,601 82	
Repairs.			
Carrick & Sloan, for Carting,	10 80		
Megargee & Co., for Trunk Board,	11 50		
Abraham Miller, for Door Tiles,	38 62		
Job B. Stanly, for Window Sash,	19 10	80 02	
Incidentals.			
Carrick & Sloan, for Carting,	27 20		
John Thornley, for India Rubber Goods,	47 87		
Wm. G. Mentz, Treas. for Rent,	150 00		
H. K. Plumly, for Postage,	16 24		
William S. Williams, for do.	20 52		
G. G. Worth & Co., for Window,	4 82		
J. P. Murta, for Postage Stamps,	4 98		
R. H. Gratz, for do.	3 00		
John Sheets, for Matches, Soap, and Brooms,	5 42		
John C. Cresson, for Expenses to Pittsburgh,	28 50		
John Donnally, for Matches,	9 65		
Joseph W. Dilks, for Steam Alarm,	4 00		
M. S. Miller, for Counterfeit Detector,	1 50		
Camden and Amboy R. R. Co., for Freight,	1 72		
Joseph K. Eyre, for Olive Oil Soap,	2 25		
Samuel Primrose, for White Washing,	4 00		
Fox & Wagner, for Packing Yarn,	89		
George Nixon, for Repairing Vise,	4 00		
E. C. Pratt & Brother, for Pens and Holder,	6 00		
John F. Connell, for Leather,	4 64		
Patrick Kenoin, for Trimming Trees,	4 50		
Amounts carried forward,	$ 351 70	23,295 98	403,646 58



CERTIFICATE NO. 306.—*Continued.*

Amounts brought forward,	$ 351 70	$23,295 98	$403,646 58
December 23d.			
Incidentals.			
S. B. Peterson, for Lithograph Frame,	5 00		
E. C. & J. Biddle, for Directories,	3 00		
R. M'Callister, for Daily News,	60		
Henry Cohen, for Pens and Holders,	15 98		
Joseph S. Lovering, for Hogsheads,	4 25		
Franklin Pratt, for Writing,	9 61		
Edward Lyons, for Brickwork,	6 06		
F. Mahady, for Carting,	5 00		
H. Filcon, for Coconut Matt,	2 50		
E G. Hirons, for Sundries for Shop,	2 79		
S. Wood, for Sprinkling Pot,	36		
J. Williams, for Sugar Box, &c.,	3 50		
Boyd & Stroud, for Tumblers,	3 12		
George Hibbard, for Watching,	5 00		
George Ward, for Washing,	3 28		
Charles Webb, for Brushes,	55		
William Fennell, for Sundries for Office,	36 31	458 61	23,754 59
			$427,401 17

CITY REGISTRY.

DATE.	APPLICATIONS.	REMOVALS. DISCONTINUANCES.	PRIVATE LIGHTS.		PUBLIC LIGHTS.		
1853.			Added.	Total.	Streets.	Market Houses.	Squares.
To Jan. 1st,	23474	11811	20550	157170	1706	50	62
January,	206	123	1809	158979	2		
February,	191	105	1738	160717			
March,	250	145	1576	162293	6		
April,	296	186	2157	164450	3		
May,	273	168	1630	166080			
June,	213	137	1566	167646	37		23
July,	206	133	1545	169191	28		
August,	239	159	1982	171173	4		
September,	341	205	2574	173747	2		
October,	395	223	3491	177238	1		
November,	394	214	2862	180100			
December,	276	156	2502	182602	5		
Total,	3280	1954	25432		88		23
Bt. down,	23474	11811			1706		62
Grand Total,	26754	13765	25432	182602	1794	50	85

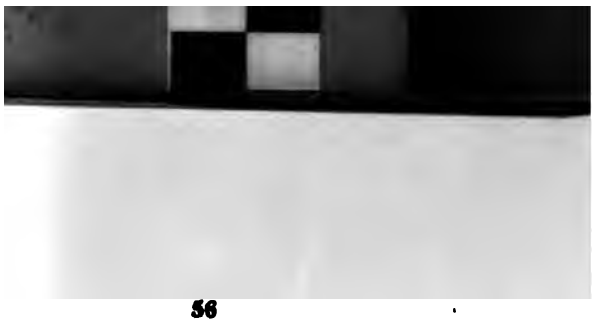
REGISTRY OF THE DISTRICTS.

	PRIVATE LIGHTS.	PUBLIC LIGHTS.	MARKET HOUSES.
Southwark,	8045	226	20
Moyamensing,	4458	141	8
West Phila.,	3126	90	
Totals,	15629	457	28

DATE.	SER-VICES LAID.	METERS SET.									PUBLIC LAMPS.		
1833.		3 light.	5 light.	10 light.	20 light.	30 light.	40 light.	60 light.	100 light.	180 light.	On Posts.	On Walls.	Market Houses.
To Jan. 1st.	11710	5865	3444	1845	389	92	41	14	20	1	1473	233	50
Jan'y,	87	50	14	12	7	1	1	1	1		2		
Feb'y,	92	53	20	11	5	2			1				
March,	103	47	33	6	12	4	1				4	2	
April,	118	62	24	15	12	2	1	1	1		3		
May,	100	52	25	13	6	1	2		1				
June,	77	48	16	5	4	1	1		2		34	3	
July,	83	40	25	8	6	2	1	1			27	1	
Aug.,	83	36	21	20	3				3		4		
Sep'r,	151	65	51	14	15		2	2	2		1	1	
Oct'r,	171	79	51	28	5	4	2	1	1		1		
Nov'r,	179	97	53	21	5	1			1	1			
Dec'r,	120	59	27	14	12	5	1		2		5		
Total,	1364	688	360	167	92	23	12	6	15	1	81	7	
Bt.down	11710	5865	3444	1845	389	92	41	14	20		1473	233	
Gd.total	13074	6553	3804	2012	481	115	53	20	35	1	1554	240	50

DATE.	MAIN PIPES LAID IN STREETS, LINEAL FEET.										
1851.	1¼ inch.	2 inch.	3 inch.	4 inch.	6 inch.	8 inch.	10 inch.	12 inch.	16 inch.	20 inch.	Total.
To Jan. 1st.	426	107037	235372	150064	38803	26865	14324	13500	10413	7362	604166
Jan'y,											
Feb'y,											
March,		390									390
April,										1008	1008
May,										3330	3330
June,		2454	1305	1566	9						5334
July,		1416	99	675							2190
Aug.,		594	225	450					720		1989
Sept'r,		1776	612	360							2748
Oct'r,										1818	1818
Nov'r,		300	1170	729	405					1101	3705
Dec'r,		222	333								555
Total,		7152	3744	3780	414				720	7257	23067
Br. down	426	107037	235372	150064	38803	26865	14324	13500	10413	7362	604166
Gd. total	426	114189	239116	153844	39217	26865	14324	13500	11133	14619	627233 *

* Or 118¾ miles.



REPAIRS OF SERVICES.

1853.	STO R	[illegible]	SERVICES REMOVED	NEW STOP COCK BOXES.
January,			4	
February,	4	15	1	11
March,	4	37	2	28
April,	5	30	2	23
May,	10	110	4	100
June,	7	16	1	15
July,	16	54	3	47
August,	22	2		102
September,	6	10		10
October,	5	1	2	1
November,	14		6	
December,	14		4	
Total,	110	275	29	337

STATEMENT OF GAS PAID FOR IN EACH MONTH OF THE YEAR, being the amount of bills as per Meters to the first day of the month.

1853.	FEET OF GAS CONSUMED AT PRIVATE HOUSES.	PUBLIC LAMPS.	DISTRICTS.			TOTAL.
			SOUTH-WARK.	MOYA-MENSING.	WEST PHILA.	
January,	24662300		1529800	1185900	354600	27732600
February,	20856800					20856800
March,	15888900	11596200				27485100
April,	23048300		1647800	1420800	680200	26797100
May,	16286200					16286200
June,	13598300	8445500				22043800
July,	14039700		2094800	1202400	487500	17824400
August,	8555900					8555900
September,	7760500	7090200				14850700
October,	12851000		2249800	1054100	414120	16569020
November,	15588600					15588600
December,	15400300	10274725				25675025
	188536800	37406625	7522200	4863200	1936420	240265245
Inventory of Stock of Gas delivered and on hand—					*Feet.*	
January 1st, 1854,					59248550	
January 1st, 1853,					51412800	
						7835750
Total in the year ending December 31st, 1853,						248100995

ANNUAL REGISTRY OF CONSUMERS AND OF PRIVATE AND PUBLIC LIGHTS.

DATE.	APPLICATIONS.	REMOVALS, DISCONTINUANCES	TOTAL NUMBER OF CONSUMERS	PRIVATE LIGHTS.		PUBLIC LIGHTS.			
To Dec. 31st.				[illegible]	Total.	Streets.	Market houses.	Squares.	Total.
1836,	301	24			2952	165			165
1837,	497	108			6814	136			301
1838,	849	174			11102	133		62	496
1839,	946	300			16482	162	18		676
1840,	788	382			19799	112	1		789
1841,	874	493			24186	13	8		810
1842,	845	541			27240	30			840
1843,	986	635			30658	59			899
1844,	1000	503			35598	195			1094
1845,	1147	629			41352	112			1206
1846,	1465	717			49490	96			1362
1847,	1869	887	[illegible]	[illegible]	62477	84	10		1396
1848,	1956	1002	7128	13935	76412	21			1417
1849,	2191	1180	8139	18050	94462	74			1491
1850,	2227	1150	9216	20542	115004	72	13		1576
1851,	2529	1339	10406	21616	136620	124			1700
1852,	3004	1747	11663	20550	157170	118			1818
1853,	3280	1954	12989	25432	182602	87		23	1951
Totals,	26754	13765		182602		1816	50	85	

STATEMENT OF METERS SET EACH YEAR.

DATE.		METERS SET.								
To Dec. 31st.	SERVICES LAID.	3 light.	5 light.	10 light.	20 light.	30 light	45 light	60 light.	100 light.	150 light.
1836,	251	108	98	31	9	2	3			
1837,	411	301	77	19	6	2	3		3	
1838,	690	442	159	61	13	9	2	1	3	
1839,	649	421	118	75	26	6	3			
1840,	350	198	78	54	13	3	2		2	
1841,	375	203	93	63	14	2				
1842,	299	157	76	57	6	3				
1843,	348	180	110	50	7	1				
1844,	503	292	129	72	5	3	1		1	
1845,	523	311	151	49	7	4		1		
1846,	761	390	237	113	14	4	2	1		
1847,	999	481	300	202	12	1	3			
1848,	971	408	333	196	25	4	3	1	1	
1849,	1029	366	366	234	46	7	5	2	3	
1850,	1079	435	412	165	50	8	3	3	3	
1851,	1211	534	373	204	76	15	4	2	3	
1852,	1261	638	334	200	60	18	7	3	1	
1853,	1364	688	360	169	92	23	12	6	15	1
Totals,	13074	6553	3804	2012	481	115	53	20	35	1

LENGTH OF MAINS LAID IN STREETS EACH YEAR, IN LINEAL FEET.

DATE.	1½ inch.	2 inch.	3 inch.	4 inch.	6 inch.	8 inch.	10 inch.	12 inch.	16 inch.	20 inch.	Total.
1836,		2310	15951	10184	4018		9140				41603
1837,		3468	13068	4302	6984						27822
1838,		150	15660	14409	9036		27	10881	2340		52503
1839,		1704	11629	11997	4419	3726					33475
1840,		222	1674	576	261						2733
1841,		204	8874	7137	27						16242
1842,		324	6831	3483	360	774					11772
1843,		966	32796	16767	1395	1053					52977
1844,		30696	38655	23555	2358	3663	891				99818
1845,	426	3240	9360	4725	837						18588
1846,		10734	9855	8442	378	2070					31479
1847,		4164	6660	2808	900	135					14667
1848,		1734	7578	3897	1458	477					15144
1849,		9690	9117	5724	2934	13284	4266	2619	8073	495	56202
1850,		6666	9513	6345	2718						25242
1851,		11901	18441	10755	720	324					42141
1852,		18864	19710	14958		1359				6867	61758
1853,		7152	3744	3780	414					7257	23067
Total,	426	113191	239116	153844	39217	26865	14324	13500	11133	14619	627233

STATEMENT OF GAS DELIVERED TO PUBLIC AND PRIVATE LIGHTS TO DECEMBER 31st IN EACH YEAR.

YEAR.	PUBLIC LIGHTS.	PRIVATE LIGHTS.	SPRING GARDEN.	SOUTH-WARK.	MOYA-MENSING.	WEST PHILA.	Used at Offices, shop & works, & loss by leakage, &c.	MADE AT WORKS.
1836,	978812	4752740					749748	6481300
1837,	1397687	14454891					1226112	17078700
1838,	3013546	22366004					1977450	27357000
1839,	6280654	30658145					2534201	39473000
1840,	8028818	34874380					2506802	45410000
1841,	10208180	39648000					1415820	51272000
1842,	13292000	36596830					922170	50811000
1843,	12985851	34579900					1324249	48890000
1844,	13608356	40022800					1152844	54784000
1845,	17373798	46702800					926402	65003000
1846,	19164106	55219800	163400				906694	75454000
1847,	19122293	68071600	2507100				1846007	91547000
1848,	19924700	78921350	6817000				1109950	106773000
1849,	24524950	96247100	10713200	2322800	195800		1505150	135509000
1850,	28482800	131258400	17650600	3457800	417900		748500	182016000
1851,	36524625	145114200	7039800	5279000	1254700		5629675	200842000
1852,	38306250	162093100		5927900	2892400	354600	6641750	216216000
1853,	37406625	191679750		10458200	5810700	2765720	1306005	249427000
								1664164000

BOARD OF TRUSTEES, 1854.

FREE[illegible], PRESIDENT.
JO[illegible]
DI[illegible]BURGIN,
S[illegible],
JO[illegible]
JO[illegible]
JA[illegible]R,
LEWIS COOPER,
BENJAMIN M. FELTWELL,
CHARLES LENNIG,
BENJAMIN GERHARD,
EDMUND A. SOUDER,

COMMITTEE ON GAS.

THOMAS J. PERKINS,
CHARLES A. POULSON,
JOHN AGNEW,
C. A. WALBORN.

ENGINEER.

JOHN C. CRESSON.

REGISTER.

WILLIAM FENNELL.

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3 Pamphlet
5/7/15

TWENTIETH ANNUAL REPORT

OF THE

TRUSTEES

OF THE

PHILADELPHIA GAS WORKS,

TO THE

SELECT AND COMMON COUNCILS OF THE CITY OF PHILADELPHIA.

JANUARY 25, 1855.

PHILADELPHIA:
L. R. BAILEY, PRINTER, 26 NORTH FIFTH ST.
1855.



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JANUARY 25, 1855.

PHILADELPHIA:
L. R. BAILEY, PRINTER, 26 NORTH FIFTH ST.
1855.

REPORT.

TO THE SELECT AND COMMON COUNCILS:

THE consolidation of the City of Philadelphia, renders it proper that the Trustees of the Philadelphia Gas Works should present, in their usual Annual Report, a brief history of the establishment of the Gas Works, and some references to their rapid extension and profitableness.

They might enlarge, too, upon the great benefits that have been conferred on the community, by the erection of the works, but this part of the subject is so well understood, that any reference to it will be but incidental.

As early as the year 1815, the project of lighting the City with Gas, claimed the attention of several enterprising and intelligent citizens.

Among these were the late Dr. Bollman and the late James McMurtrie, Esq., the latter of whom, after a conference with Dr. Bollman, then but recently returned from Europe, and familiar with what had been there attained in Chemistry applied to the Arts, presented a communication to Councils on the subject.

This communication was finally referred to a Committee, but no definite action on it appears to have been had.

It is worthy of note, however, and rather remarkable, that the project of Messrs. Bollman and McMurtrie contemplated the use of wood as the gas making mate-

rial, and now at a date forty years later, and aided by the more recent developements of chemical science, that material promises to be extensively used in the manufacture, and in some locations, and under some circumstances, with more profitable results than Coal or other substances.

A few years later, 1817 to 1820, the Masonic Hall and Museum were lighted with resin gas, but not with sufficient success and economy to lead public opinion to the construction of works of the capacity required for supplying a large and general consumption.

Prior to 1833, several parties made propositions to establish gas works, and to supply the public lighting either gratuitously, or on what were then deemed by the proposers, very liberal terms, but these were all wisely rejected by Councils, and the matter held in abeyance a few years longer.

In 1833, the subject was taken in hand with intelligence and earnestness, and the Report of the Committee, consisting of Messrs. Joshua Lippincott, Samuel V. Merrick, Manuel Eyre, Dr. Robert M. Huston, John Gilder, and John Price Wetherill, gave one of the clearest and most just views of the importance and the economy and benefits of the measure, that had up to that time been made public. They estimated the cost of works sufficient to supply 315,000 cubic feet of gas daily, and a system of distributing pipes about 100 miles in extent, at $687,000. The result they then arrived at has been signally confirmed by the actual outlays upon the City Gas Works. But the public mind, even under this strong exposition, was not yet prepared for the erection of Works at the cost of the City, and after considerable discussion, both public and private, it was deemed best by the Councils, to appoint an agent to

visit Europe, and to make a thorough examination of the best establishments there, and otherwise to obtain as full information as might be practicable in the process of manufacture, and the cost and other details that might serve for intelligent legislation here.

Mr. Samuel V. Merrick was selected as the agent, and on his return made a report which fully sustained the views taken by the Committee above referred to, of which he had been one of the most active members, and tended greatly to secure for the gas project, a large share of public confidence and favour.

What had been accomplished abroad was clearly explained, and what seemed to be required here, appropriately presented. But still there were many of influence and character, who feared the trial of the experiment, and the Ordinance reported by the appropriate Standing Committee failed to obtain the concurrence of Councils.

This brings the history rapidly down to the latter part of the year 1834. The earnest friends of the measure were not disheartened by this new defeat and postponement of their hopes.

On the 12th of February, 1835, a resolution was offered in the Common Council, by the present President of the Board of Trustees, for the appointment of a Committee, "with instruction to report a bill, if they shall deem the introduction of gas expedient, which shall effectually guard the City from any increase of taxation, and from any eventual loss, by adopting the project."

The resolution was adopted by Councils, and Messrs. F. Fraley, H. J. Williams, Dr. R. M. Huston, and T. Lancaster, of the Common Council; and Messrs. W. H. Keating, Richard Price, John Wiegand, and Joshua

Lippincott, of the Select Council, were appointed the Committee.

On the 9th of March, 1835, the Chairman of the Committee, Mr. Fraley, made report with an Ordinance attached, and on the 21st day of March, 1835, the Ordinance as so reported, with some slight modifications, was adopted and passed by Councils. Its essential features were a capital stock of $125,000, to be subscribed for and paid in by citizens who agreed in consideration of the profits, to take all the risk of the undertaking: the whole of the investment, management, and other details to be confided to a Board of Trustees, to be elected by the Select and Common Councils: the supply of gas to the public lamps at half the price charged to private customers: and the right of the city at any time to take possession of the Works, by giving the Stockholders certificates of six per cent. City Loan, redeemable in twenty years, in exchange for their certificates of Stock. A Board of Trustees consisting of Messrs. Benjamin W. Richards, John R. Latimer, Alexander Dallas Bache, William H. Keating, John Price Wetherell, Henry M. Zollickoffer, John Farr, Dr. Robert M. Huston, Fred'k Fraley, Ephraim Haines, Matthias W. Baldwin, and Thomas Cave, were elected on the 28th day of March, 1835. The subscription lists for the stock were opened immediately afterwards, and so much had the public interest been aroused, that the subscriptions largely exceeded the authorized capital; and arrangements were required, to distribute the stock among the subscribers by lot. The Trustees appointed Mr. Samuel V. Merrick the Engineer of the Works, and so rapidly and successfully were they prosecuted that on the 8th of February, 1836, they were put in operation. The public were

literally taken by surprise, as only two premises were at that time prepared for the introduction of gas, and the registry of applicants exhibited only 19 private, and 46 public burners. By the close of the year the number of burners stood 2800 private, and 165 public, and the daily consumption had reached 42,000 cubic feet.

The success of the experiment was now complete, the friends of the measure had redeemed every pledge they had given, and henceforth there was no lack of public and private confidence. On the 8th of February, 1837, Mr. Merrick who was then very actively engaged in other pursuits, tendered his resignation as Engineer, which was reluctantly accepted by the Trustees, and Mr. John C. Cresson, who, in August, 1836, was appointed Superintendent of the Works, was then elected to the place, and has continued to fill it with a zeal, fidelity, and skill, that has made the Philadelphia Gas Works a type for nearly all others in the United States, and in success, and profitableness probably not equalled elsewhere.

On the 22nd of December, 1836, it was determined to adopt the policy of extending and enlarging the Works by Loans, and that policy has been continued up to the present time. Prior to the year 1841, the Ordinances for such Loans contained provisions: that if the Works were taken possession of by Councils before the maturity of the Loans, and the Stock converted into City debt, the Stockholders should be entitled to all the accumulated profits.

July 1st, 1841, the City authorities decided to settle with the Stockholders on the terms of the original contract, as modified and enlarged by the Ordinances for the Loans, and a final settlement was made, under which the Stockholders received $125,000 of 6 per

cent. and $48,000 of 5 per cent. City Loans, in lieu of their original capital; and, in addition to this, they had received all the net profits of the Works up to February 1st, 1841.

In all the legislation subsequent to March, 1835, care was taken to obtain the consent of the Stockholders to every change or modification of the original compact, and the Stockholders always responded liberally and cheerfully to the arrangements proposed for the extension of the Works. The legislation of 1841 adopted the principle which the founders of the Gas Works had urged and secured in the original plan.

This was, first, a management that would be responsible to, but not subject to the City legislature: and second, such a permanency in the management, as would secure the Works from the effect of sudden political changes in the Councils.

It was then declared, that until the Loans authorized for the purposes of the Gas Works were fully discharged, the price of gas should not be reduced below a standard that would produce at least eight per cent. per annum, on the whole cost of the Works; nor then, unless the pipes for distribution had been extended throughout the City limits: as additional securities, the faith of the City was pledged, that the management should continue in a Board of Trustees, elected and constituted as theretofore; and that no part of any moneys received for the products of the Works, should at any time be paid into the City Treasury, but be held by the Trustees for the purpose of carrying on the business, and paying the interest on and principal of the Gas Loans.

By the Ordinance of May, 1841, all the net profits were appropriated to the Sinking Fund, and were so

applied and accumulated until 1844, when the Councils deemed it expedient to have the price of Gas reduced.

This was finally effected in that year by the passing of an Ordinance, to which the concurrence of the Loan holders was obtained, which authorized a reduction in price, whenever the net profits should exceed eight per cent. for the interest and sinking fund, and the additional sum of twenty thousand dollars per annum, for extensions and extraordinary repairs and renewals. By subsequent legislation the amount of the loans was increased, as the additional calls of customers rendered rapid extensions proper; and while ample provision was made for the payment of all these loans at maturity, the reduction in price was continued until it was fixed at $2 per thousand cubic feet to the private customers, and at about $1 per thousand cubic feet for the public lamps. By the year 1850 the demand was so great, that it became necessary to look for a location on which additional works might be erected, and this ultimately led to the purchase of the large and valuable estate at Point Breeze, on the Schuylkill, and to the erection of a manufacturing establishment there which would cover the existing exigency, and lead in process of time by the completion of works of suitable capacity, to the removal of the first set of works from their original location.

The first section of the new works was put in successful operation on the 13th day of December, 1854, in the presence of the Select and Common Councils, and the plans connected with them will doubtless now be carried out with such rapidity as the public interests may justify, and without too hasty a sacrifice of the old Works before their deterioration would call for expensive renewals and repairs. This will, probably, occupy

a period of several years in duration, and will make the transfer without inconvenience, or considerable pecuniary loss. In the Report of the Chief Engineer, the Councils will find the gratifying announcement, that the whole area of our extended and Consolidated City can be supplied without difficulty from the site of the new Works, and there is, therefore, every reason demanded by true economy, and convenience, for so arranging the Gas Department, that this great and beneficial end may be accomplished. The close of 1836 found us with an annual product of 6,481,300 cubic feet, and supplying an aggregate of 2965 lights. The close of 1854 exhibits the annual product at 282,224,000, and supplying an aggregate of upwards of 200,000 lights. The capital invested in the Works, January 1st, 1837, was $125,000, the capital now invested January 1st, 1855, is 1,782,591$\frac{31}{100}$. During a portion of this interval the late District of Spring Garden was supplied from the Works, but now the supply, large as it is, is limited to the "Old City," and the late Districts of Southwark, Moyamensing, and West Philadelphia.

We have thus brought our rapid sketch of the history of the Works to a close, and will proceed now with the usual statements of the business of the year. Shortly after the presentation of the last Annual Report it became evident to the Trustees, that the price demanded for materials and labor of all kinds would not enable them to realize from the manufacture and sale of gas and the other products of the Works, the sums which they were required, by the several Ordinances, to set apart for the payment of the interest on and the redemption of the Gas Loans. They reported accordingly to Councils, and asked such legislation as would

enable them to comply with the directions of those laws, by charging an additional price for gas. But the authority was not granted, and the result has been such as was anticipated. The gross profits of the year, as exhibited in the annual accounts, amounts to $105,729 $\frac{55}{100}$, while the interest and Sinking Fund demanded by Ordinances was $124,525, and no part of the annual sum of $30,000 for extensions of the Works, &c., has been realized from the expected profits. Should no material reduction take place in the price of labor and materials during the present year, a similar result will undoubtedly be experienced, and unless it be prevented by adequate and seasonable legislation, a serious injury will thereby be inflicted on the public faith.

While such a deficiency rested upon estimates, the postponement of legislation might be tolerated, but now that it has been demonstrated by the actual results of the business of the year, the scrupulous good faith of the city should be preserved by directing the Trustees to readjust both the public and private prices to the proper standard. To some extent prices may in a year or two fall back, and then the charge be again reduced to its present rate, or it may be, that the concentration of the whole of the manufacture at one point, and the increased economy in working, which will thereby be effected, and a continuance of the increase of consumption in the rapid ratio we have lately experienced, will, without such a fall, justify a return to existing prices.

All the details of the manufacturing and distributing operations of the year, are so fully given in the report made by the Chief Engineer to the Trustees, which is herewith submitted, that the Councils will readily understand the extent and importance of the Works.

As a large manufacturing and commercial establish-

ment, they claim a vast amount of scientific, mechanical, and commercial ability, and it is believed, that as they have been managed and worked by the Trustees and Engineer, they may challenge a comparison with any concern of equal magnitude and detail.

The money accounts which give the final results of the business, have been prepared with a special reference to the existing Ordinances, and they exhibit in minute detail all the receipts, expenditures, and profits, together with the general state of the affairs of the Gas Works on the first instant.

It will be manifest from an examination of the accounts, that there is an immediate necessity for authority to raise money for the erection of additional Works, for the extension of the distribution of gas, and for working capital.

In consequence of the great inadequacy of the authorized capital for all these purposes, the Board was obliged, in September last, to close the Books for the registry of new customers, unless the applicant would agree to furnish the sum required to pay for the service pipe and meter.

The inability of some of our fellow citizens to rent or use their property without the introduction of gas, constrained them to make such payments in order to secure light. The money has been received from them under no positive pledge to refund it, but with the assurance that the Trustees would respectfully urge upon Councils the propriety of not only authorizing the new Capital that may be required to reimburse such parties, but an amount sufficiently ample for the proper increase of the Works in all its branches, and a working capital that will render it unnecessary to purchase materials or make contracts on credit.

By the want of such a provision, and the postponement of the payment of the bills against the city for gas supplied to the public lamps, &c., very serious embarrassments will naturally follow from every increase of current business; as the large stock of coals and other materials required to be kept constantly on hand, and the quantity of gas supplied to customers, and always outstanding as a credit to them until quarter-day, usually represents a sum exceeding two hundred thousand dollars. To these subjects, therefore, the Trustees do most earnestly and respectfully invite the early attention of the Councils.

By the recent decision of the Supreme Court, rendered on the application of certain of the Loan holders of the Gas Works, it has been settled that any change in the organization, duties, and powers of the Trustees must first have the consent of such Loan holders.

The Trustees have every reason to believe that the Loan holders will now, as they have always heretofore done, consent to such changes in the existing contracts with them as will permit the organization of a Gas Department of sufficient powers for the supply of the whole area of the Consolidated City, provided, it be constituted in such way as not to impair the security they now hold. And it will afford the Trustees great pleasure to aid the City authorities in obtaining such consent to any Ordinance which may secure both those great objects.

BY ORDER OF THE TRUSTEES,

F. FRALEY, *President.*

Office of the Philadelphia Gas Works,
January 25th, 1855.

Attest,

WILLIAM FENNELL, *Register.*

THE ENGINEER'S REPORT.

TO THE TRUSTEES OF THE PHILADELPHIA GAS WORKS:

The undersigned has the honor to present his Nineteenth Annual Report of the operations of the Works committed to his management.

The quantity of Gas manufactured in the year 1854, is two hundred and eighty-two millions, two hundred and twenty-four thousand cubic feet, being thirty-two millions seven hundred and ninty-seven thousand feet more than was produced in the previous year, and making the whole amount obtained since the commencement of the Works, nineteen hundred and forty-six millions five hundred and sixty-eight thousand cubic feet.

The different sections of the City supplied with Gas from these Works have received it in the following proportions:

	CUBIC FEET.
Southwark,	14,989,200
Moyamensing,	8,273,800
West Philadelphia,	6,501,780
Old City, including gas used at offices and Works, and amount lost by leakage and making connections,	252,459,220
	282,224,000

The greatest production of Gas in twenty-four hours was one million three hundred and nineteen thousand feet, on the twenty-third of December; and the greatest amount consumed was one million three hundred and sixty-one thousand feet, on the night of the sixteenth of the same month.

The materials used in the manufacture of Gas are exhibited in the following statement:

Coal in store January 1st, 1854, -	310,464	Bushels.
" bought in 1854, -	934,075	"
	1,244,539	"
Coal carbonized in 1854, - -	919,550	"
" in store January 1st, 1855, -	324,989	"
	1,244,539	"
Coke on hand January 1st, 1854, -	5,000	"
" made in 1854, -	1,099,519	"
	1,104,519	"
Coke used under retorts, - -	595,637	"
" " in Offices and Yard, and at New Works, - -	32,000	"
" sold in 1854, - - - -	473,382	"
" on hand January, 1st, 1855, -	3,500	"
	1,104,519	"
Rosin used, - - - - -	990,000	Pounds.
Wood used - - - - -	50	Cords.
Lime used in purifiers, - - -	78,374	Bushels.

In the department of distribution, there has been less extension than for several years past, owing in great measure to the exhaustion of the funds at the disposal of the trust for this purpose, and the consequent necessity of limiting the introduction of service pipes during the latter half of the year to cases in which the applicants were willing to bear the expense.

The number of meters set, and service pipes laid in new places, is nine hundred and thirty-nine, making the whole number in use fourteen thousand and thirteen.

Two thousand eight hundred and eighty-four new applications for gas have been added to the registry, and one thousand nine hundred and sixty-nine removals and discontinuances deducted from it; leaving the present number of thirteen thousand nine hundred and four consumers now on the books.

The number of lights added are eighteen thousand one hundred and twenty-seven private, and twenty-seven public, in the old city; and three thousand eight hundred and sixty private, and two hundred and fifty-one public, in Southwark, Moyamensing, and West Philadelphia; the aggregate number now supplied by the works being two hundred and twenty-two thousand nine hundred and eighty-nine.

There have been laid but two thousand five hundred and thirty-two feet of main pipe in streets during the past year, making the total length in the old city, six hundred and twenty-nine thousand seven hundred and sixty-five feet, equal to one hundred and nineteen and a quarter miles.

In Moyamensing there are ninety-five thousand feet of main pipe, and six hundred and eighty-eight services and meters; forty-eight hundred and forty-four private, and one hundred and seventy-eight public lights.

In West Philadelphia there are eighty-one thousand nine hundred and eight feet of main pipe, and four hundred and eleven services and meters, five thousand one hundred and eighty private, and three hundred and eleven public lights.

In the late Borough of Frankford, now Twenty-third Ward, there have been about thirty-four thousand feet of main pipe laid, and one hundred and eighty-six services and meters put in, and seven hundred and fifty private, and forty-six public lights, supplied with gas obtained from the Northern Liberties Works.

At the new Works, Point Breeze, the fires were lighted in the retort houses, in the month of November, for the purpose of drying the brick-work of the benches, and so preparing them for use, without danger of injury from sudden heating up.

On the thirteenth of December, regular gas making operations were commenced, and have been continued since that time, with entirely satisfactory results, as respects their productiveness, but with much embarrassment and expense from the want of resi-

dences for the workmen sufficiently convenient to the Works. The increased facility of manufacturing, and consequent increased production from the same amount of materials and labour that were anticipated, from the improved arrangement and construction of these Works, have been fully realized in their practical operation. The quantity of gas obtained from a ton of coal, is about sixteen per cent. greater than is obtained from the same kind of coal at the old Works; and each retort while it requires no more fuel to heat it, and no more men to work it, yields about twenty per cent. more gas. These advantages are owing partly to improvements in the form and setting of the retorts, and partly to the use of the exhausting engine; which by relieving the retorts from back pressure, diminishes the loss arising from the deposit of carbonaceous vapours, which not only produces serious loss of the most richly illuminating parts of the gas, but also cause the more rapid destruction of the retorts.

From the experience had up to this time in the operations of these Works, I feel justified in expressing the opinion, that if so much of the ultimate plan were completed as would suffice for the present supply of Gas to the City; and the proposed arrangements for receiving and storing coals and accommodating the workmen, were carried into effect, there would result a saving in the cost of gas to our citizens of not less than fifty thousand dollars a year; which saving would be increased every year in the same ratio, as the annual sales of gas increased. In consequence of the disaster that occurred to the large gasholder before it was completed, it has been necessary to pass the gas made by the new Works, directly into the old gasholders, at the distance of three and a quarter miles—in doing which no difficulty has been experienced, nor need any be apprehended, while the quantity to be passed continues to be small in proportion to the calibre of the connecting main. When the workmen engaged in making the repairs in the damaged gasholder came to take out the broken parts, they found the materials and workmanship in some places so bad, as to make its breaking down almost inevitable, in time, without the intervention of the storm to which its occurrence was attributed. All these defective pieces have been taken out, and

are to be replaced with others of good material and workmanship. Samples of them are carefully preserved as proofs of the cause of the accident, in the event of legal proceedings being instituted in relation to it.

As nearly as can be estimated, before the work is entirely finished, the expense of repairing the damage to the gasholder will be about six thousand dollars, to which will be added the cost of replacing the defective pieces with others of good quality, amounting, probably, to fifteen hundred dollars.

With the exception of this unfortunate occurrence, the entire work has been put in operation, without the slightest difficulty or untoward incident.

As no official account of the general plan of these Works has yet been published, the time when the first section has just been put in operation, forms a suitable occasion for describing both the entire design and the parts now constructed. Our experience shows, that in a manufacture using large quantities of heavy materials, there is much economy in making arrangements that shall require the least possible handling of such materials, and that their necessary movements shall be effected by mechanical and not manual power.

Keeping these principles in view, the grounds have been laid out so that the places of storage of coals and other bulky materials shall be adjacent to the points of reception, and also as near the retorts as is consistent with sufficient allowance of storage room.

A space directly east of the wharves is reserved for the erection of store sheds, two hundred and fifty by six hundred feet, giving room for the storage of over thirty thousand tons of coal.

Adjoining these on the east, the ultimate plan provides for four distinct retort houses, fifty-five feet in width, and of lengths varying to suit the shape of the grounds. The one now in use is two hundred and fifty feet long and fifty-six feet high, accommodating forty-eight beds of retorts, which may be either of three or five retorts each, as may from time to time be deemed preferable. Those now set are with three retorts; this number having thus

far given most economical results. This house will therefore admit of either one hundred and forty-four, or two hundred and forty retorts, as one or the other of these modes shall be adopted. The second retort house will be of the same length, and the third and fourth each more than twice as long; the capacity of the whole being sufficient for one thousand and eight retorts, in beds of three, or sixteen hundred and sixty retorts, if set five in a bed: being capable of supplying a maximum consumption of six millions feet a day in one case, and eight millions in the other. Large as this quantity seems to us now, there is good reason for supposing that the consumption of the consolidated City will exceed it in the lifetime of some of the present generation. As the work in the retort house has been found to be productive of much discomfort to the workmen in the summer season, unless provision is made for an ample supply of fresh air and rapid ventilation; these retort houses are planned in such way as to afford every desirable advantage in these respects. Instead of heavy piers of brick or stone, the front is formed of a light cast iron frame work in the form of gothic arches, which allows almost the entire side of the building to be thrown open for air, by the movement of rolling lattice blinds in the windows.

The great elevation of the roof, through the ridge of which are carried up separate draught flues from the retort beds, furnishes a column of heated air of sufficient height for very active ventilation, so as to protect the workmen most completely from the dingy fumes so profusely thrown out in drawing and charging the retorts. When the gas leaves the retort house to pass through the condensing and purifying apparatus, it is made to travel in a direction towards the gas-holder, and also towards the densely built parts of the city, where it is chiefly to be consumed; so that the pipes of conveyance may perform the two-fold office of connection, for the works and conduits from the point of production to that of use.

A set of large pneumatic pumps, technically termed an exhausting engine, takes the gas from the washers in such manner as to remove all pressure beyond that of the atmosphere from the hydraulic main, and forces it through the various resisting portions of the Works without subjecting the contents of the re-

torts to the compression which has been found so injurious both to the retorts and gas. In order to obtain greater economy in the use of lime, a double system of purification has been adopted; in which the gas is first made to pass through a series of wet lime cylinders with contrivances for its very minute subdivision into numerous small jets; thus bringing it into most effective contact with the liquid detergent.

It then enters the condensers composed of three collateral ranks of six inch pipes, there being eighteen pipes eighteen feet long in each rank. From these it passes through dry lime purifiers arranged in the usual manner around a central hydraulic valve. These are all placed in one building seventy-two feet long and fifty-two wide, suitably proportioned for their adjustment to each other. Still further east is the building for the station meters and clerks' offices, one hundred feet long by thirty feet in width. A meter of suitable size is to be provided for each section of the factory, so as to permit each to be worked independently, or in conjunction with the others. The meter now in use is intended for passing at regular work five hundred thousand feet per day, and can be worked up to twice that quantity if necessary; the inlet being sixteen inches diameter. The meter room will hold four more meters; two of the same size as this, and the others of a size smaller; it being intended to use the two largest now in use at the old Works. The gas holder into which the gas is next to pass, is of telescopic form, one hundred and sixty feet in diameter and ninety feet high, holding when full, one million eight hundred thousand cubic feet. It is guided by twelve pentagonal towers, each composed of an iron structure of appropriate architectural design, supported on a stone base also pentangular in form. The connecting girders are in form of cast iron balustrades with open quatrefoil panels. There are two inlet pipes, one of twenty inches, and the other of sixteen inches diameter. The connecting main to the gas holders on Market street, is three and a quarter miles long and twenty inches diameter.

It is laid along the Passyunk Road to Long Lane, and up the latter to Twentieth street, along which it passes to Market street, and thence to Twenty-second street, where it enters the large

gas-holder by a twenty inch inlet. There are connections between this main and the general system of street mains at two points, both guarded with slide valves; one at Twentieth and Spruce streets, with the twelve inch main in the latter; the other with a sixteen inch main in Twenty-second street, that leads into the Arch street sixteen inch main. Both these connections are kept shut off during the day, and opened as occasion requires at night. In transmitting the gas through this long conduit, from the Works to the gas-holder, no difficulty of any kind has been experienced, affording satisfactory proof that the proposed plan of supplying the whole city from a single large factory is entirely practicable, as well as economical. The expenditures for the construction of this first section of the Works have not quite exhausted the whole appropriation for them made by Councils in 1851, based upon my estimate in March of that year; but the outstanding contracts and bills yet to be paid will probably absorb the whole sum. Had not the unexpected difficulties in the foundation of the tank, and the accident to the gas-holder occurred, the cost of the section would have been several thousand dollars below the appropriation. Before dismissing this subject, it seems incumbent on me once more to advert to the necessity of some provision being made for the residence of workmen within convenient distance of the Works. As many residents of the neighborhood as have been found willing and competent have been employed; but as these have not sufficed, it is necessary to employ others who live so remote that much time and labor are consumed in going to and from their work. So long as no authority is given to the Trustees to build, and no assurance held out that individuals who might otherwise be disposed to build shall not be injured by future competition from the city authorities, this undesirable condition of things will probably continue; and, in the mean time, the city must suffer heavy loss, and be subjected to the chance of being left in darkness in the event of a heavy drifting snow, or other insuperable obstacle, preventing the men from reaching their work.

The inconvenience that was last year anticipated from the disturbed condition of the supplies of bituminous coals, have been

experienced to a considerable extent. Not only has the price increased most exorbitantly, but the quality has deteriorated in almost equal proportion.

From this cause the quantity yielded by the ton of coal has been considerably less than if coals of the usual quality had been obtained. At one period of the season the difficulty of getting coals, even of this inferior quality and high cost, became so great that there seemed just reason to fear that the supply would be insufficient to carry us through the winter. In order to avoid the disastrous results that must ensue upon a failure in this respect, quantities of other materials, such as rosin and wood, were bought, whenever they could be obtained at reasonable prices; and apparatus of a peculiar construction, designed to make these materials most available, were experimented with, in order to be prepared to use them to best advantage whenever their use should become necessary. On many previous occasions experiments tried with various vegetable substances have shown, that by their use in conjunction with coal, an increased product of gas was obtainable; but the trials were not carried sufficiently far to determine how much reliance could safely be placed on their use alone. Our first experiments of this series were made with an apparatus of foreign invention, a trial of which was authorized by the Trustees early in the year; which was put in operation and kept at work a sufficient time to ascertain that it was capable of yielding a very good product from different varieties of wood, but was subject to certain derangements of parts, which it was desirable to avoid, if possible.

On the suggestion of the Assistant Engineer of the Works, trial was next made of a retort invented by him, differing from any retort known here or abroad, which gave promise of avoiding the defects of the above mentioned apparatus, while giving equally good results in other respects. As the inventor was an officer in the service of the Trustees, it was deemed right to guard the Works from any risk of loss by the trial, by stipulating that they should be at no expense in case the results were unfavorable; and that, if the apparatus was successful, the Works should have all the profit resulting from its use, upon payment of the cost of

labor and materials required for its construction. On trial of many weeks continued use, its success was complete, yielding a gas of excellent quality, not only as cheap, but much cheaper than that made from coal.

It was therefore recommended that a number of the retorts should be set up, on condition that the Works should be subjected to no charge for the use of the patent right.

This being agreed to by the inventor, and authorized by the Board, ten retorts are now in course of erection and will very shortly be at work. As the manufacture of gas from wood, and its excellent illuminating quality has been witnessed by most of the Trustees, it is not necessary to enter into many details respecting it in this report; but it is proper to state as matter of official record, that a cord of ordinary fire wood of any of the varieties brought to our market, will furnish nearly twice as much illuminating material as is obtained from a ton of the best Pittsburg coal. That is to say, the former will yield nearly a double volume of gas that gives, when properly burned, an equal light foot for foot.

It is worthy of note that the great advantages likely to result from this invention, will have been attained at a comparatively small expense to the Works.

An expenditure of six hundred dollars, authorized by the Board, for investigating the merits of the foreign apparatus first named, was nearly sufficient for that purpose, the cost of the experiments exceeding the amount by only a few dollars, which are repaid by the value of the materials remaining on hand.

For the other apparatus the Works have been subjected to no expense except for the retorts and their connections; and these having been kept steadily at work have paid for themselves by their manufactured product, the same as other retorts used in the regular operations of the establishment. The gain that has already accrued to the Works from the mere control of this new process, by the ability it gave to resist a threatened farther advance in the price of coals, which must have been submitted to in the absence of such resource, amounts to more than four times the cost of the apparatus.

A considerable increase in the cost of gas has been produced in the last two years by the advance in the price of coals, iron and labor; the advance of the two first having been more than thirty-five per cent., and in the last about fifteen per cent.

From this cause it results that the cost of making gas, exclusive of interest on capital, rents, and pay of clerks and inspectors employed in the department of distribution and finance, but including all labor and materials used in the manufacture and in repairs of apparatus, has risen from ninety-eight cents per thousand feet to one dollar and twenty-five cents per thousand. The former being the cost in 1853, and the latter in 1854.

To the net cost of production should be added the expenses of rents, and clerks, and inspectors, amounting last year to about twelve and a half cents per thousand. Now, as the price paid for public lighting is twenty dollars a year for a lamp consuming over twenty thousand feet, it follows that there is an actual loss to the Works of fifteen thousand dollars upon the public lamps in the old city proper last year, without taking any thing into the account for interest on capital, or the appropriations to the sinking fund required by ordinance of Councils, which, if added in their proper proportions, would swell the loss to more than twice this amount.

In accordance with the several resolutions of Councils providing for the temporary supervision of the gas pipes and meters, and collection of bills in West Philadelphia, Moyamensing and Frankford, proper steps have been taken for the due preservation of the gas property and the collection of moneys due. All the property in West Philadelphia and Moyamensing having been confided to your Board, the collections from them have been passed into the hands of the Register of the Works, who is, by ordinance, the Treasurer of the Trustees.

But, as the care of the Frankford affairs was devolved upon the undersigned, the collections from that quarter have been certified to the Comptroller, and paid over to the City Treasurer. On investigation, the management of affairs connected with the distribution of gas appear to have been conducted, in West Philadelphia, with commendable accuracy and system; but those of

the other two districts do not seem to have been managed so carefully. Whenever the direct communication between the Trustees and these gas districts, thus temporarily authorized, shall be by law made permanent, the intervening station meters, that now impede the supply of gas, may be removed, and the gas consumers much benefitted by the change.

Appended are the customary tabular statements, showing the progress and condition of the Works in every year since their foundation, and other statistical matters deemed worthy of permanent record.

Very respectfully,

JOHN C. CRESSON,

Engineer.

CASH ACCOUNT.

DR.

Balance on hand, January 1st, 1854,	$ 15,089 83
Receipts in 1854.	
For Temporary Loans,	135,000 00
Extra Service Pipes and Meter Cocks,	8,823 02
Sales of Gas,	444,275 19
" of Coke,	37,981 96
" of Tar,	11,265 60
" of Lime,	1,939 23
" of old Materials,	1,654 39
" of Bricks and Tiles,	596 63
" of Unscreened Coke,	309 83
" of Bituminous Coal,	162 50
" of Pipes, &c.,	101 41
Rents,	202 08
Sales of Loan 8,	24,200 00
Five per cent. City Loan of 1854,	700 00
Gas consumed in the District of Moyamensing	5,229 39
Interest on City Loans,	2,715 50
	$ 690,246 56

CR.

Payments in 1854.	
For the construction and enlargement of the Works,	$ 78,080 92
Extension of the Street Mains,	15,922 39
Service Pipes and Meters,	32,526 56
Temporary Loans paid,	130,000 00
Coal and other materials used in the manufacture of Gas, wages of Workmen, &c.,	229,418 79
Repairs of the Works, Street, Mains, &c.,	53,565 45
Incidental Expenses,	45,177 19
Salaries of Engineer, Register, and Chief Clerk,	6,375 00
Interest on Loans,	52,716 95
Investment for Sinking Fund,	10,200 00
Interest on Temporary Loans,	633 34
Brokerage on Sales of Loan 8,	35 00
Balance on hand, January 1st, 1855,	35,594 97
	$ 690,246 56

STATE OF THE WORKS, JANUARY 1, 1855.

Assets.

Works,	$ 841,966 39
Street Mains,	542,426 36
Service Pipes and Meters,	286,979 47
Public Lamps,	11,814 02
Cash,	35,594 97
Suspended Debt,	3,862 40
Stocks belonging to the Sinking Fund,	562,781 50
Coal on hand,	97,496 70
Rosin on hand,	9,435 00
Wood on hand,	12,600 00
Coke on hand,	210 00
Due for Gas sold, delivered and on hand,	104,983 16
Due for Coke, Tar, &c.,	10,000 00
Interest on City Loans due January 1st, 1855,	1,359 50
Wharf Lot on the Schuylkill,	6,000 00
Site of the New Gas Works,	36,957 69
West Philadelphia District, due for Gas to Oct. 1, 1854,	3,128 55
City of Philadelphia, " " Dec. 1, 1854,	20,404 60
Moyamensing District, " " Oct. 1, 1854,	4,468 90
	$ 2,592,469 21

Liabilities.

Loans 1, 2, 3, 4, 5, 6, 7, and 8,	$ 1,370,000 00
Dividends unpaid,	405 00
Interest on Gas Loans including that due, January 1st, 1855,	26,654 60
For Coals, Repairs, and Materials used in the manufacture of Gas,	234,924 95
Temporary Loan,	5,000 00
Sinking Fund,	628,413 20
Contingent Fund,	317,979 67
City of Philadelphia for amount received for Gas consumed in Moyamensing District,	5,229 39
Profit and Loss, (amount of Suspended Debt,)	3,862 40
	$ 2,592,469 21

STATEMENT OF THE SINKING FUND.

1854.			
Jan'y 1,	Amount of the Sinking Fund, - - -		$ 553,304 20
	Increase of the Sinking Fund in the year 1854, - - - - - - - -		
June 30,	6 months' interest on $ 392,500 Gas Loans, at 6 per cent., - - - - - -		11,775 00
	6 months' interest on $ 93,900 Gas Loans, at 5 per cent., - - - - - -		2,347 50
	6 months' interest on $ 7,900 City Loans, at 6 per cent., - - - - - -		237 00
	6 months' interest on $ 44,900 City Loans, at 5 per cent., - - - - - -		1,122 50
	6 months' appropriation of 2 per cent. per ann. on $475,000, Loans 1, 2 and 3, - - - -	$ 4,750	
	of 3 per cent. per annum on $ 125,000, Loan 4, - -	1,875	
	of 4 per cent. per annum on $ 760,500 of Loans 5, 6, 7, and 8, - - - - - -	15,210	
			21,835 00
Dec. 30,	6 months' interest on $ 402,000 Gas Loans, at 6 per cent., - - - - - -		12,060 00
	6 months' interest on $ 93,900 Gas Loans at 5 per cent., - - - - - -		2,347 50
	6 months' interest on $ 7,900 City Loans at 6 per cent., - - - - - -		237 00
	6 months' interest on $ 44,900 City Loans at 5 per cent., - - - - - -		1,122 50
	Amount carried forward,		$ 606,388 20

	Amount brought forward,		$ 606,388 20
6 months' appropriation of 2 per cent. per annum on $ 475,000 Loans of 1, 2 and 3,	- -	$ 4,750	
of 3 per cent. per annum on $ 125,000 of Loan 4,	- -	1,875	
of 4 per cent. per annum on $ 770,000 of Loans 5, 6, 7 and 8,	- - - - -	15,400	
			22,025 00
			$ 628,413 20

The amount invested is as follows:

1854.			
Jan'y 1,	Cost of Investments at this date,	- -	$ 553,281 50
" 31,	Received $ 700, six per cent. City Loan, in payment for $ 700 five per cent. City Loan which become due January 1st, 1854,		
Dec. 30,	For $ 9,500 Gas Loan, No. 8, taken at par,	- - - - - - -	9,500 00
	Balance not invested,	- - - -	65,631 70
			$ 628,413 20

CITY AND GAS LOANS BELONGING TO THE SINKING FUND, JANUARY 1, 1855.

Five per cent. City Loans:			
Redeemable in 1855,	- -	$600	
1856,	- -	300	
1857,	- -	2,200	
1858,	- -	7,100	
1859,	- -	4,000	
1861,	- -	1,100	
1862,	- -	1,000	
1867,	- -	3,900	
1870,	- -	9,700	
1871,	- -	5,200	
1872,	- -	7,300	
1873,	- -	2,200	
1874,	- -	300	
			$44,900 00
Six per cent. City Loans:			
Redeemable in 1876,	- -	$6,600	
1881,	- -	600	
1889,	- -	700	
			7,900 00
Six per cent. Gas Loan:			
No. 1, redeemable in 1862,	- -	$10,400	
" 2, " 1863,	- -	57,300	
" 3, " 1861,	- -	32,100	
" 5, " 1868,	- -	36,100	
" 6, " 1869,	- -	14,100	
" 7, " 1870,	- -	66,100	
" 8, " 1872,	- -	185,900	
			402,000 00
Five per cent. Gas Loan No. 4, redeemable in 1866,			93,900 00
			$548,700 00
The cost of the above was - - - - -			$562,781 50

STATEMENT OF THE PROFIT AND LOSS ACCOUNT, FOR 1854.

1854.		
Jan'y 1,	Amount due for Coal, Materials and Repairs, chargeable to the manufacture of Gas,	$112,245 75
Dec. 30,	Sales of Gas in 1854,	444,275 19
	" Coke,	37,981 96
	" Tar,	11,265 60
	" Lime,	1,939 23
	" Old Materials,	1,654 39
	" Bricks and Tiles,	596 63
	" Unscreened Coke,	309 83
	" Bituminous Coal,	162 50
	" Pipes, &c.,	101 41
	Rents,	202 08
	Stock of Coal on hand,	97,496 70
	" Rosin,	9,435 00
	" Wood,	12,600 00
	" Coke,	210 00
	Due for Coke, Lime, Tar, &c.,	10,000 00
	" Gas delivered,	104,983 16
	Due from West Philadelphia for Gas, to Oct. 1, 1854,	3,128 55
	Due from Moyamensing for Gas, to Oct. 1, 1854,	4,468 90
	Due from old City for Gas, to Dec. 1, 1854,	20,404 60
	Due for Suspended Debt, to Jan. 1, 1855,	3,862 40
		$877,323 88
Jan'y 1,	Amount of Stock on hand and Debts due to the Works at this time,	$198,568 98
Dec. 30,	Payments against the manufacture of Gas, Coal, and other Materials, and Wages,	229,418 79
	Repairs,	53,565 45
	Incidental Charges,	45,177 19
	Salaries of Engineer, Register, and Chief Clerk,	6,375 00
	Amount carried forward,	$533,105 41

Amount brought forward,	$533,105 41
Interest on Temporary Loans, - -	633 34
Brokerage on sale of Loan 8, - - -	35 00
Appropriated to Sinking Fund, as directed by Ordinance, - - - - -	43,860 00
Interest on Loans for the year 1854, -	80,665 00
Due for Coal, Repairs, and Materials used in the manufacture of Gas, - - -	234,924 95
Suspended Debt, Jan. 1, 1854, - -	2,895 32
	$896,119 02

The balance of this account, being $18,795 14, is the amount of the loss sustained by the Works during the present year, 1854, in carrying on the business at the prices now charged for Gas. The amount of this loss, and the increase on the suspended debt, have been charged against the Contingent Fund, the total of such charge being $19,762 22. The loss here referred to is the deficiency of the sum required to complete the appropriation for the year to the Sinking Fund. Exclusive of the interest on Loans, and the appropriation to the Sinking Fund, the profits were $105,729 86. The interest on the Loans was $80,665, and there was therefore left for the Sinking Fund the sum of $25,064 86, instead of $43,860, as required by ordinances.

STATEMENT OF THE CONTINGENT FUND FOR 1854.

Amount of the Fund, January 1st, 1854, - - -		$337,741 89
Decrease during the year, as per Profit and Loss Account, - - - - - - - -	$18,795 14	
And by difference in amount of Suspended Debt, - - - - - - - - -	967 08	
		19,762 22
		$317,979 67

The amount raised under various Ordinances, for the construction and enlargement of the Works, and for extraordinary repairs and renewals, and for working capital, has been, to Jan. 1st, 1855:

Loans 1, 2, 3, 4, 5, 6, 7 and 8, - - -	1,370,000 00
Contingent Fund, derived from profits, - -	317,979 67
	$1,687,979 67

The amount expended has been:

Construction of Works, - - - - - -	$841,966 39
Street Mains, - - - - - - -	542,426 36
Service Pipes and Meters, - - - -	286,979 47
Public Lamps, - - - - - - -	11,814 02
Wharf Lot on the Schuylkill, - - -	6,000 00
Site of the new Gas Works, - - - -	36,957 69
	$1,726,143 93

The Liabilities of the Works, Jan. 1, 1855, are as follows:

Construction of Works, Street Mains, Service Pipes, and Meters, - - - - - -	59,518 19
Coals, Repairs, and Materials used in the manufacture of Gas, - - - - - - - -	234,924 95
	$294,443 14

WORKS.			STREET MAINS.			SERVICES.		
	Dolls.	*C.*		*Dolls.*	*C.*		*Dolls.*	*C.*
Wages of laborers and fitters employed in erecting new works,	16,893	35	Wages of men employed in laying mains in streets,	1,406	08	Wages of men engaged in laying pipes and setting and fitting up meters,	9,562	42
Castings,	19,686	61	Pipes and castings,	12,168	97	Meters,	12,297	17
Gas-holder No. 12,	6,000	00	Lead,	1,020	56	Stop cocks,	4,517	83
Mason work,	4,529	03	Paving,	597	00	Tubing,	2,432	17
Stone,	4,460	07	Valves,	520	00	Blankets,	1,204	13
Fire brick and Tile,	3,565	53	Carting,	143	36	Paving,	1,278	83
Lumber,	3,149	82	Ship chandlery,	66	42	Lumber,	602	04
Bricks,	2,328	67				Lead pipe,	210	17
Carting,	2,217	49				Lamp cocks & fittings,	200	00
Slating,	2,087	25				Hardware and nails,	112	23
Bricklaying,	2,054	18				Tin and copper,	73	75
Station meter,	1,300	00				Chemicals,	35	82
Iron,	1,120	08						
Valves,	988	84						
Tubing,	788	27						
Tin work,	642	42						
Measuring stone,	592	84						
Lead pipe, wire, and sheet lead,	590	10						
Machine work,	493	53						
Boiler,	420	00						
Lime,	410	70						
Plastering and cement work,	393	10						
Hose,	392	10						
Bolts and nuts,	328	93						
Gas-holder screws,	312	50						
Oil,	199	02						
Chain,	192	80						
Farming implements and labor,	191	50						
Cottar bars,	172	50						
Patent Punch,	160	00						
Nails,	153	30						
Fire-plugs,	153	00						
Pumps,	135	00						
Cement,	112	50						
Sash,	108	50						
Ship Chandlery,	103	22						
Smithwork,	100	00						
Sand,	85	85						
Wagon,	60	00						
Hardware,	57	45						
Circular sawing-machine,	55	00						
Blocks,	53	20						
Leather,	41	52						
Towing,	38	00						
Shears,	35	00						
Trunk boards,	33	77						
Wood-barrows,	33	75						
Stopcocks,	24	13						
Iron borings,	15	00						
Stocks,	14	00						
Powder,	7	50						
Total,	78,080	92	Total,	15,922	39	Total,	32,526	56

GAS.	Dolls.	C.
Wages of stokers, &c., employed in retort houses and purifying houses, manufacturing gas and wheeling coke, coals, &c.	53,331	21
Coals,	115,704	04
Freight on coals,	20,433	62
Rosin,	16,421	53
Wood,	12,508	23
Carting and Towing,	7,819	16
Oyster shells,	2,801	00
Insurance,	100	00
Total,	229,418	79

REPAIRS.	Dolls.	C.
Wages of carpenters, blacksmiths, bricklayers, fitters and laborers engaged in repairs of works, street mains and services,	22,049	53
Castings,	16,512	24
Fire brick & clay,	3,473	05
Meters,	2,888	69
Lumber,	1,614	29
Iron,	1,457	72
Oil and paints,	865	59
Hardware & nails,	422	74
Tubing,	420	65
Bricklaying,	350	19
Machinist work,	272	02
Flagging and coping stone,	260	37
Ship Chandlery,	258	79
Carriage,	200	00
Dredging,	197	02
Carting,	188	22
Blankets,	177	25
Wagon,	165	00
Plumbing,	140	10
Furnace,	137	89
Birch brooms,	119	15
Saddlery,	117	74
Wheelwight work	105	47
Shovels,	99	50
Iron railing,	96	36
Tin work,	95	44
Bricks,	83	40
Sand and mica,	62	50
Galvanizing pipe,	54	21
Trowels,	52	00
Iron borings,	52	56
Hammer, file, and axe handles,	49	30
India rubber goods	47	97
Tin and copper,	47	49
Sheet lead,	37	10
Buckets,	21	25
Iron & brass cocks	80	50
Repairing furnace	20	16
Repairing pumps,	65	12
Cotton waste,	19	78
Repairing scales,	19	75
Tallow,	15	87
Trunk boards,	16	72
Leather,	15	19
Belting,	13	05
Adjusting instruments,	10	00
Sundries,	96	52
Total,	53,565	45

INCIDENTALS.	Dolls.	C.
Wages of clerks, men employed in the inspection of fittings and meters, and taking statements for bills, storing coals and coke at works, measuring coke, tar, &c.	31,248	54
Rents,	4,559	10
Taxes and water,	2,760	91
Carting,	772	45
Sundries for board	486	93
Horse feed,	468	26
Printing, stationery & engraving,	475	78
Blankets,	256	95
Barrels,	255	79
Castings,	145	55
Wood and coal,	141	06
Horses exchanged	140	00
Carpets,	138	91
Subscription and advertising,	120	00
Alcohol,	99	09
Reports lighting,	98	00
Hardware,	86	09
Muslin,	82	92
Printing-press,	75	75
Gas burners,	73	00
Smithwork,	67	86
Tin and wire work	62	97
Threshing grain,	56	27
Chemicals,	53	70
Pressure register, and meter cards,	42	50
Birch brooms,	41	49
Insurance,	39	15
Farming implements,	38	50
Stone,	38	32
Paint and painting	38	08
Turning & bungs,	36	38
Plumbing,	36	04
Expenses to Pitts,	35	00
Professional services,	31	50
Saddlery,	30	25
Gas fittings,	30	00
Ship Chandlery,	24	12
Thermometers,	16	12
Meter,	15	36
Gardening,	13	97
Miscellaneous expenses of offices, postage, &c.,	444	53
Total,	43,677	19

CITY REGISTRY.

DATE.	APPLICATIONS.	REMOVALS. DISCONTINUANCES.	PRIVATE LIGHTS.		PUBLIC LIGHTS.		
1854.			Added.	Total.	Streets.	Market Houses.	Squares.
To Jan. 1st, . .	26,754	13,765	25,432	182,602	1,793	50	85
January, ...	185	123	1,969	184,571	5		
February, . . .	153	85	1,398	185,969			
March, ...	246	150	1,384	187,353	3		
April, ...	270	168	1,608	188,961	8		
May, ...	275	158	1,670	190,631	4		
June, ...	250	163	1,362	191,993	6		
July, ...	206	142	1,199	193,192			
August, ...	261	181	1,326	194,518	1		
September, . .	337	224	1,889	196,407			
October, ...	276	236	1,538	197,945			
November, . . .	244	199	1,568	199,513			
December, . . .	181	140	1,216	200,729			
Total, ...	2,884	1,969	18,127		27		
Brought down,	26,754	13,765			1,793	50	85
Grand total, . .	29,638	15,734	18,127	200,729	1,820	50	85

REGISTRY OF THE DISTRICTS.

	PRIVATE LIGHTS.	PUBLIC LIGHTS.	MARKET HOUSES.
Southwark, ...	9,545	227	20
Moyamensing, ...	4,844	170	8
West Philadelphia, . . .	5,180	311	
Frankford, ...	750	46	
Totals, ...	20,319	754	28

DATE.	SERVICES LAID'	METERS SET.									PUBLIC LAMPS.		
1854.		3 light.	5 light.	10 light.	20 light.	30 light.	45 light.	60 light.	100 light.	150 light.	On Posts.	On Wall.	Market Houses.
To Jan'y 1st.	13,074	6553	3804	2012	481	115	53	20	35	1	1554	240	50
January,	69	44	8	9	6	1	1				5		
February,	52	21	7	10	7	6	1						
March,	118	71	21	12	8	3	3				3		
April,	107	50	27	16	10	3	1				7	1	
May,	115	56	32	15	4	4	4				4		
June,	90	46	24	12	8						6		
July,	59	30	14	11	3		1						
August,	84	45	16	9	9	4	1				1		
Septem'r,	113	63	21	14	9	5		1					
October,	49	16	14	10	7	1		1					
November,	38	9	12	6	10	1							
December,	45	19	11	3	8	1	2		1				
Total,	939	470	207	127	89	29	14	2	1		26	1	
Bt. down,	13,074	6553	3804	2012	481	115	53	20	35	1	1554	240	50
Gd. total,	14,013	7023	4011	2139	570	144	67	22	36	1	1580	241	

DATE.	MAIN PIPE LAID IN STREETS, LINEAL FEET.										
1854.	1½ inch.	2 inch.	3 inch.	4 inch.	6 inch.	8 inch.	10 inch.	12 inch.	16 inch.	20 inch.	Tot
To Jan'y 1st.	426	114,189	239,116	153,844	39,217	26,865	14,324	13,500	11,133	14,619	627,
Jan'y,											
Feb'y,											
March,		264	396	243							
April,		318		36							
May,			63	486							
June,			171								
July,											
August,											
Sept'r,			162								
October,											
Novem'r,			189								
Decem'r,		96	45	63							
Total,		678	1,026	828							2,
Bt. down,	426	114,189	239,116	153,844	39,217	26,865	14,324	13,500	11,133	14,619	627,
Gr. total,	426	114,867	240,142	154,672	39,217	26,865	14,324	13,500	11,133	14,619	629,

REPAIRS OF SERVICES.

1854.	STOP-COCKS RENEWED.	NEW COVERS FOR STOP-COCK BOXES.	SERVICES REMOVED.	NEW STOP-COCK BOXES.
January, ...	19		6	
February, ...	18	2	1	2
March, ...	25	3	5	4
April, ...	15	14	4	1
May, ...	23	68	4	63
June, ...	20	55	7	56
July, ...	11	80	3	86
August, ...	11	58	10	58
September, . . .	22		5	
October, ...	19	4	5	4
November, . . .	30		10	
December, . . .	18		6	
Total, . . .	231	284	66	274

STATEMENT OF GAS PAID FOR IN EACH MONTH OF THE YEAR, being the amount of bills as per Meters to the first day of the month.

1854.	FEET OF GAS CONSUMED AT PRIVATE HOUSES.	PUBLIC LAMPS.	DISTRICTS.			TOTAL.
			SOUTH-WARK.	MOYA-MENSING.	WEST PHILA.	
January, .	29,745,600		4,465,800	2,113,400	1,183,900	37,508,700
February,.	24,766,300					24,766,300
March, . .	18,996,300	12,071,250				31,067,550
April, . . .	25,496,100		4,258,300	2,126,400	1,421,600	33,302,400
May, . . .	17,700,500					17,700,500
June, . . .	16,826,600	8,416,500				25,243,100
July, . . .	11,795,300		2,949,500	1,613,000	1,129,100	17,486,900
August, . .	9,363,200					9,363,200
September,	10,110,700	8,360,700				18,471,400
October,. .	9,997,900		2,658,900	1,564,600	956,600	15,178,000
November,	15,653,600					15,653,600
December,	20,906,800	10,792,474				31,699,274
	211,358,900	39,640,924	14,332,500	7,417,400	4,691,200	277,440,924

Inventory of Stock of Gas delivered and on hand:—	*Feet.*	
January 1st, 1855, . . .	61,754,800	
January 1st, 1854, . . .	59,248,550	
		2,506,250
		279,947,174

ANNUAL REGISTRY OF CONSUMERS AND PRIVATE AND PUBLIC LIGHTS.

DATE.	APPLICATIONS.	REMOVALS AND DISCONTINUANCES.	TOTAL NUMBER OF CONSUMERS.	PRIVATE LIGHTS.		PUBLIC LIGHTS.			
To Dec. 31st.				Added.	Total.	Streets.	Market Houses.	Squares.	Total.
1836,	301	24	277	2952	2952	165			165
1837,	497	108	666	3862	6814	136			301
1838,	849	174	1341	4288	11102	133		62	496
1839,	946	300	1987	5380	16482	162	18		676
1840,	788	382	2393	3317	19799	112	1		789
1841,	874	493	2774	4387	24186	13	8		810
1842,	845	541	3078	3054	27240	30			840
1843,	986	635	3429	3418	30658	59			899
1844,	1000	503	3926	4940	35598	195			1094
1845,	1147	629	4444	5754	41352	112			1206
1846,	1465	717	5192	8138	49490	96			1302
1747,	1869	887	6174	12987	62477	84	10		1396
1848,	1956	1002	7128	13935	76412	21			1417
1849,	2191	1180	8139	18050	94462	74			1491
1850,	2227	1150	9216	20542	115004	72	13		1576
1851,	2529	1339	10406	21616	136620	124			1700
1852,	3004	1747	11663	20550	157170	118			1818
1853,	3280	1954	12989	25432	182602	87		23	1928
1854,	2884	1969	13904	18127	200729	27			1955
	29638	15734		200729		1820	50	85	

STATEMENT OF METERS SET EACH YEAR.

DATE.		METERS SET.								
To Dec. 31st.	SERVICES LAID.	8 light.	5 light.	10 light.	20 light.	30 light.	45 light.	60 light.	100 light.	150 light.
1836,	251	108	98	31	9	2	3			
1837,	411	301	77	19	6	2	3		3	
1838,	690	442	159	61	13	9	2	1	3	
1839,	649	421	118	75	26	6	3			
1840,	350	198	78	54	13	3	2		2	
1841,	375	208	93	63	14	2				
1842,	299	157	76	57	6	3				
1843,	348	180	110	50	7	1				
1844,	503	292	129	72	5	3	1		1	
1845,	528	311	151	49	7	4		1		
1846,	761	390	237	118	14	4	2	1		
1847,	999	481	300	202	12	1	3			
1848,	971	408	333	196	25	4	3	1	1	
1849,	1029	366	366	284	46	7	5	2	3	
1850,	1079	435	412	165	50	8	3	3	3	
1851,	1211	584	378	204	76	15	4	2	3	
1852,	1261	638	334	200	60	18	7	3	1	
1853,	1364	688	360	167	92	23	12	6	15	1
1854,	939	470	207	127	89	29	14	2	1	
	14013	7023	4011	2189	570	144	67	22	86	1

LENGTH OF MAINS LAID IN STREETS EACH YEAR, LINEAL FEET.

DATE.	1½ inch.	2 inch.	3 inch.	4 inch.	6 inch.	8 inch.	10 inch.	12 inch.	16 inch.	20 inch.	TO
1836,		2310	15951	10184	4018		9140				4
1837,		3468	13068	4302	6984						2
1838,		150	15660	14409	9036		27	10881	2340		5
1839,		1704	11629	11997	4419	3726					3
1840,		222	1674	576	261						
1841,		204	8874	7137	27						1
1842,		324	6831	3483	360	774					1
1843,		966	32796	16767	1395	1053					5
1844,		30696	38655	23555	2358	3663	891				9
1845,	426	3240	9360	4725	837						1
1846,		10734	9855	8442	378	2070					3
1847,		4164	6660	2808	900	135					1
1848,		1734	7578	3897	1458	477					1
1849,		9690	9117	5724	2934	13284	4266	2619	8073	495	5
1850,		6666	9513	6345	2718						2
1851,		11901	18441	10755	720	324					4
1852,		18864	19710	14958		1359				6867	6
1853,		7152	3744	3780	414				720	7257	2
1854,		678	1026	828							
	426	114867	240142	154672	39217	26865	14324	13500	11133	14619	62

STATEMENT OF GAS DELIVERED TO PUBLIC AND PRIVATE LIGHTS TO DECEMBER 31st IN EACH YEAR.

YEAR.	PUBLIC LIGHTS.	PRIVATE LIGHTS.	SPRING GARDEN.	SOUTH-WARK.	MOYA-MENSING.	WEST PHILA.	Used at Offices, Shops, and Works, & loss by leakage, &c.	MADE WOR
1836,	978812	4752740					749748	648
1837,	1397687	14454891					1226122	1707
1838,	3013546	22366004					1977450	2735
1839,	6280654	30658145					2534201	3947
1840,	8028818	34874380					2506802	4541
1841,	10208180	39648000					1415820	5127
1842,	13292000	36596830					922170	5081
1843,	12985851	34579900					1324249	4889
1844,	13608356	40022800					1152844	5478
1845,	17373798	46702800					926402	6500
1846,	19164106	55219800	163400				906694	7545
1847,	19122293	68071600	2507100				1846007	9154
1848,	19924700	78921350	6817000				1109950	10677
1849,	24524950	96247100	10713200	2322800	195800		1505150	13550
1850,	28482800	131258400	17650600	3457800	417900		748500	18201
1851,	36524625	145114200	7039800	5279000	1254700		5629675	20084
1852,	38306250	162093100		5927900	2892400	354600	6641750	21621
1853,	37406625	191679750		10458200	5810700	2765720	1306005	24942
1854,	40177874	209334300		14989200	8304000	6501800	2916826	28222
								194656

A COMPLETE LIST

OF THE

TRUSTEES OF THE PHILADELPHIA GAS WORKS,

FROM THE COMMENCEMENT,

IN THE ORDER OF THEIR APPOINTMENT.

Elections by Select Council, March 26th, 1835.

Benjamin W. Richards, John R. Latimer,	for one year.
A. D. Bache, W. H. Keating,	for two years.
J. P. Wetherill, H. M. Zollickoffer,	for three years.

Elections by Common Council.

John Farr, R. M. Huston,	for one year.
Frederick Fraley, Ephraim Haines,	for two years.
M. W. Baldwin, Thomas Cave,	for three years.

B. W. RICHARDS, President.
SAMUEL V. MERRICK, ENGINEER.
BENJAMIN MATTHIAS, Secretary.

B. W. Richards resigned the Presidency June 20th, 1835.

Dr. R. M. Huston elected President July 10th, 1835.

Dr. J. K. Mitchell elected July 9th, 1835, in place of B. W. Richards, resigned.

John Siter elected January 28th, 1836, in place of J. K. Mitchell, resigned.

Benjamin Matthias, Secretary, resigned March, 1836.

Frederick Brown elected January 19th, 1837, in place of A. D. Bache.

Samuel V. Merrick, Engineer, resigned February, 1837.

Alexander Ferguson elected November 23d, 1837, in place of Ephraim Haines, deceased.

John Wiegand elected April 12th, 1838, in place of H. M. Zollikoffer, resigned.

A. D. Bache elected September 27th, 1838, in place of John Siter, resigned.

George Handy elected January 30th, 1839, in place of J. R. Latimer, resigned.

Thomas Cave elected President in place of Dr. R. M. Huston, resigned, June 28th, 1839.

Charles Gilpin elected January 14th, 1841, in place of W. H. Keating, deceased.

Thomas S. Smith elected January 28th, 1841, in place of M. W. Baldwin.

G. H. Burgin elected January 20th, 1842, in place of George Handy.

Isaac Myer elected January 20th, 1842, in place of R. M. Huston.

Samuel Norris elected January 19th, 1843, in place of Alexander Ferguson.

Isaac Barton elected January 18th, 1844, in place of Thomas S. Smith.

John C. Davis elected November 7th, 1844, in place of A. D. Bache, resigned.

Frederick Fraley elected President in place of Thomas Cave, deceased, March 28th, 1845.

Joseph S. Lovering elected April 10th, 1845, in place of Thomas Cave, deceased.

John Trucks elected June 19th, 1845, in place of Charles Gilpin, resigned.

Jacob E. Hagert elected January 29th, 1846, in place of Frederick Brown.

Frederick Brown elected March 25th, 1847, in place of John Farr, deceased.

M. W. Baldwin elected October 28th, 1847, in place of John Trucks, resigned.

John Agnew elected December 23d, 1847, in place of J. E. Hagert, resigned.

William Morris elected January 20th, 1848, in place of J. C. Davis.

John F. Gilpin elected January 20th, 1848, in place of G. H. Burgin.

G. H. Burgin elected April 6th, 1848, in place of J. S. Lovering, resigned.

John C. Davis elected April 13th, 1848, in place of W. Morris, resigned.

James Traquair elected January 18th, 1849, in place of Frederick Brown, resigned.

John Lindsay elected December 20th, 1849, in place of J. P. Wetherill, resigned.

Lewis Cooper elected December 20th, 1849, in place of J. C. Davis, resigned.

B. M. Feltwell elected January 31st, 1850, in place of Isaac Barton, resigned.

E. Y. Farquhar elected March 15th, 1850, in place of J. Lindsay, resigned.

John C. Davis elected October 24th, 1850, in place of E. Y. Farquhar, resigned.

Charles Lennig elected October 24th, 1850, in place of John Agnew, resigned.

Benjamin Gerhard elected January 30th, 1851, in place of Isaac Myer, resigned.

E. A. Souder elected January 29th, 1852, in place of M. W. Baldwin, resigned.

Samuel R. Brick elected January 25th, 1855, in place of E. A. Souder.

Wm. J. P. White elected January 25th, 1855, in place of Charles Lennig.

John Manuel elected January 25th, 1855, in place of Samuel Norris.

Wm. G. Flanagan elected January 25th, 1855, in place of Frederick Fraley.

BOARD OF TRUSTEES, 1855.

JOHN WIEGAND, PRESIDENT.
DR. GEORGE H. BURGIN,
JOHN F. GILPIN,
JOHN C. DAVIS,
JAMES TRAQUAIR,
LEWIS COOPER,
BENJAMIN M. FELTWELL,
BENJAMIN GERHARD,
SAMUEL R. BRICK,
WILLIAM J. P. WHITE,
JOHN MANUEL,
WILLIAM G. FLANAGAN.

ENGINEER,
JOHN C. CRESSON,
Appointed Aug. 26th, 1836.

REGISTER,
WILLIAM FENNELL,
Appointed March 31st, 1336.

STANDING COMMITTEES.

On Works.

GEORGE H. BURGIN, Chairman.
JOHN C. DAVIS,
JAMES TRAQUAIR,
LEWIS COOPER,
BENJAMIN M. FELTWELL,
SAMUEL R. BRICK,
WM. G. FLANAGAN.

On Distribution.

JOHN F. GILPIN, Chairman.
GEORGE H. BURGIN,
BENJ. M. FELTWELL,
BENJ. GERHARD,
WM. J. P. WHITE,
WM. G. FLANAGAN,
JOHN MANUEL.

On Finances.

LEWIS COOPER, Chairman.
JOHN C. DAVIS,
JOHN F. GILPIN,
JAMES TRAQUAIR,
BENJAMIN GERHARD,
SAMUEL R. BRICK,
JOHN MANUEL.



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TWENTY-FIRST

ANNUAL REPORT

OF THE

Trustees of the Philadelphia Gas Works,

TO THE

SELECT AND COMMON COUNCILS

OF THE

CITY OF PHILADELPHIA.

JANUARY 25, 1856.

PHILADELPHIA:
CRISSY AND MARKLEY, PRINTERS, GOLDSMITHS HALL, LIBRARY STREET.
1856.

3-VOL



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REPORT.

To the Select and Common Councils:

The Board of Trustees of the Philadelphia Gas Works in presenting this, their Twenty-first Annual Report, to the Select and Common Councils of the City of Philadelphia, have the pleasure of congratulating Councils upon the prosperity which their judicious legislation has been instrumental in conferring on the department of Gas.

It is now in a condition of usefulness and success, which it is believed cannot fail to command the confidence and approbation of the citizens of our greatly enlarged city.

In the month of February last, the Committee on Gas of the Select and Common Councils, had an interview with the trustees, for the purpose of devising such measures as would enable the trustees to take charge of and manage the entire gas department of the city.

The result of this interview was the passage of the ordinance of March 20th, 1855, placing all the gas works in which the City had any interest, under the control and management of the trustees.

Immediately after the passage of that ordinance, the trustees adopted measures to carry out its provisions. Inventories of the various works thus placed under their management were prepared, and submitted to Councils, and will be found in detail upon their journals.

A correspondence was opened, in accordance with the provisions of the ordinance, with the Northern Liberties, Southwark and Moyamensing, Germantown, and Manayunk Gas Works, for the purchase of those works.

There was a willingness expressed by all of them to sell their works respectively to the City. The trustees have in part communicated the progress of these negotiations to Councils, and they confidently expect in the early part of the present year, to be able to communicate to Councils definitely the price and terms upon which those works can be obtained.

The provisions in the ordinance for the purchase of those works has been a source of embarrassment to the companies enumerated in it: apprehensive that under the ordinance the trustees would be compelled to lay gas mains in those portions of the City which are supplied by gas furnished by those works, or compel them to sell to the City their works at a loss. They have consequently declined making such extensions of their gas mains, as the wants of the citizens residing in those portions of the City require.

This has been the cause of much dissatisfaction and complaint; beyond the power of the trustees to remedy.

Another consideration deserves to be noticed.

Under existing circumstances those works could be paid for if purchased, only in loans of the City, and with the low prices ruling for City loans for some time

past, it would be injudicious to embarrass the market by any considerable addition thereto. Under this impression the trustees thought it most advisable not to press the purchase of those works, until the present depressed state of the stock market shall have improved.

In this connection it is proper to say, that in any event, it would not be advisable to purchase any of the works referred to, unless there is a reasonable prospect that the net profits therefrom at the present price of gas, can be made to pay the necessary expenses of superintendence, working, and repairs, and at least eight per cent per annum on the amount of the purchase money, for the payment of interest and final redemption of their cost. A different course would necessarily compel the trustees to advance the price of gas, in order to cover any deficiency. It will also become necessary, when those works are purchased by the city, to provide for their enlargement, and consequently to increase the working capital of the trustees. Experience has demonstrated beyond all doubt, that in order to furnish gas at the present price, it is necessary that ample means should at all times exist, for the purchase of materials and the employment of labor at the lowest rates.

In assuming the works enumerated in the ordinance of March 20th, 1855, at four hundred and fifty thousand dollars, the trustees were led to believe that in addition thereto, there were claims against those works for materials and labor, amounting to thirty thousand dollars. The actual results have greatly exceeded this estimate. It was discovered that on the site occupied by the works in the Fifteenth Ward, there is an annual ground rent of $1,974, equivalent to a principal ground debt of $32,900,

and that on the works in the Twenty-Third Ward there is an annual ground rent of $240, equivalent to a principal ground debt of $4,000. The other claims against those works, for materials and labor, amounted to $52,652.44, making the entire cost of those works to the trustees, amount to $539,552.44.

By reference to the report of the Engineer it will be seen that the gas works in the fifteenth ward, in the department of distribution, was most imperfectly executed, showing a very large per centage of loss, full twenty per cent upon the amount manufactured, arising, without doubt, from leakage in the mains. This is of so serious a character, that as soon as it was discovered, efforts were made to remedy it as far as practicable, and these efforts will be continued until the causes of such loss shall be fully remedied.

On the first of July last, the price payable for gas was fixed by the trustees at two dollars and twenty-five cents per thousand cubic feet, in those portions of the city supplied by the works under the care of the trustees. This measure, while it advanced very slightly the price to consumers in the fifth, sixth, seventh, eighth, ninth and tenth wards of the city, was a measure of relief to the citizens of the other wards, who were consuming gas furnished by the works lately managed by the city authorities.

It has also given rise to a very large increase in the demand for gas, especially in the fifteenth, twentieth, twenty-first and twenty-fourth wards. To meet this demand there has been laid since the consolidation of the gas works, and the establishment of a uniform price for gas, 45,981 feet of mains.

In one of the extensions northward, which is now in process of completion, the trustees have been enabled most happily to combine the advantages of a full supply of gas to the northern portions of the city east and west of Broad Street, to a large and flourishing portion of the city known as Kenderton, to Nicetown, and also to the Germantown Gas Company, for the supply of Germantown, within the chartered limits of the Company.

Connected with this extension the means are provided for the public lighting of Broad Street to the villages just named.

By reference to the report of the Engineer, it will be seen that the gas works in the first ward, at Point Breeze, are in successful operation, and affording the most gratifying results. The capacity of all the works at the present time may be assumed as sufficient for supplying 2,500,000 cubic feet per day, and with a comparatively small expenditure, increasing the capacity of the Point Breeze works.

The quantity of gas manufactured during the past year, was as follows:

At the works in the first ward, -	73,044,000
At the works in the ninth ward,	226,969,000
At the works in the fifteenth ward, during the last nine months, - -	47,694,000
And during the three first months of the past year, it is estimated there was made also at the works in the fifteenth ward, - - - - - - -	15,000,000
Making a total of - - - -	362,707,000

cubic feet of gas in all the works during the entire year 1855.

The largest consumption of gas during the year was on the 24th of December last, amounting to 1,866,000 cubic feet in twenty-four hours.

For a more detailed statement of the works, Councils are respectfully referred to the report of the Engineer, accompanying this.

The Board of Trustees are happy to say that, although the loan authorized by Councils July 13th, 1855, could not be sold at par in consequence of the extreme tightness of the money market, yet it was made available in the payment of claims against the works placed under the management of the trustees by the ordinance of Councils of 20th March, 1855. It has also been used, to a limited extent, in the purchase of coals and other materials, thus serving to that extent the purpose of a working capital.

The Board of Trustees have the satisfaction to state, that the profits on the business of the past year are ample to meet every engagement and liability.

For a detailed statement of the finances, Councils are respectfully referred to the report and statements of the cashier, herewith submitted.

In closing this report the Board feel that they are discharging but a simple act of justice in acknowledging the ability and industry with which the two great departments of engineering and finance have been managed by the respective officers of those departments, and are happy to say that all the employees in those departments are reported to be faithful in the discharge of their various duties.

By order of the Trustees,

GEO. H. BURGIN, *President.*

WILLIAM FENNELL, *Register.*

OFFICE PHILADELPHIA GAS WORKS,
Jan'y 25th, 1856.

THE ENGINEER'S REPORT.

TO THE TRUSTEES OF THE PHILADELPHIA GAS WORKS:

In presenting his 20th Annual Report, the Engineer has the satisfaction to state that the records of the works exhibit evidence of progress both as regards the extent of their operations, and the systematic organization required to secure complete accountability in the numerous departments of the consolidated establishments.

The quantity of gas made during the year 1855, in the factories now managed under the Gas Trust, is 347,711,000 cubic feet, of which 226,969,000 cubic feet were made at the old works in Ninth Ward, 73,044,000 cubic feet at the new works in First Ward, and 47,694,000 cubic feet at the works in Fifteenth Ward, the latter being the produce of nine months working. The aggregate amount of gas manufactured under the Trust, since its commencement in 1836, is 2,294,279,000.

The greatest consumption in 24 hours from all the works was 1,866,000 cubic feet on the 24th of December: and the largest product was 1,665,000. As no records of the daily operations of the works in the Fifteenth Ward were found about the establishment when it came into possession of the Trustees, the statistics prior to the first of April could not be ascertained with accuracy, and therefore cannot be embraced in the tabular details of this report; but from that period the accounts have been carefully recorded, and the results of the nine months since elapsed are given in their proper connection.

The materials used in making gas in the several factories, are as shown in the annexed tabular statement.

	1st. Ward.	9th Ward.	15th Ward.	Totals.
	Tons.	Tons.	Tons.	Tons.
Coal in store January 1st, 1855,	2,000	9,607		11,607
" bought in 1855, - -	9,400	22,964	5,592	37,956
	11,400	32,571	5,592	49,563
	Tons.	Tons.	Tons.	Tons.
" carbonized in 1855, - -	7,608	25,071	5,479	38,158
" in store January 1st, 1856,	3,792	7,500	113	11,405
	11,400	32,571	5,592	49,563
	Bus.	Bus.	Bus.	Bus.
Coke on hand January 1st, 1855,	500	3,000		3,500
" made in 1855, - - -	226,417	928,439	190,762	1,345,618
	226,917	931,439	190,762	1,349,118
	Bus.	Bus.	Bus.	Bus.
Coke used under retorts in 1855,	122,422	513,055	136,056	771,533
" " in Offices, Yard, &c.,	*38,000	5,500	2,600	46,100
" " sold - - -	59,995	378,284	45,206	483,485
" stock January 1st, 1856,	6,500	34,600	6,900	48,000
	226,917	931,439	190,762	1,349,118

There has also been used 438,558 lbs. Rosin, and 830 cords of wood, and 104,201 bushels of lime in purifiers. The maximum number of retorts in use at the works in First Ward, was 48, in the Ninth Ward works 260, and in the Fifteenth Ward works 72. The average being in the First Ward 35½, Ninth Ward 145, and in the Fifteenth ward 48⅔. The greatest number at work at any one time in all three works being 368.

* The greater part of this was used for steam engines pumping water for the works, and exhauster-engine.

The number of meters and service pipes put in at new places, has been

In the wards comprising the old city, - -	1,021
" " " " Spring Garden and Penn,	398
" " " " Moyamensing, - -	274
" " Twenty-fourth Ward, - - - -	102
" " Twenty-third do - - - -	81

Making the total of meters and services set in 1855, one thousand eight hundred and seventy-six, and the whole number now in use, twenty-two thousand one hundred and twenty-three.

The number of applications registered in the year, has been

In old city office, including Moyamensing, - -	3,875
" Spring Garden " Penn, - - - - -	400
" Twenty-fourth Ward, - - - -	195
" Twenty-third do - - - - -	111
In all - - - - -	4,581

Deducting from these the removals and discontinuances, amounting to 2,861, and adding the number of previous consumers, shows the whole number of gas consumers at the present time to be 22,898.

The lights added during the year, are as follows:

Old City, - - -	16,709
Moyamensing, - -	1,779
Spring Garden and Penn, - -	4,607
Twenty-fourth Ward, - -	758
Previously in use, - - -	259,363
Total, - - - -	283,216

The public lamps now in use, amount in all the wards supplied from these works, to 3,349; adding these, and also 16,301 sup-

plied through the Southwark Gas Company, makes the aggregate of 300,406 lights receiving gas from these works.

In the Twenty-third Ward there are 2,411 private, and 55 public lights supplied with gas purchased from the Northern Liberties Gas Company.

The length of street mains laid during the year has been 45,981 feet and the entire length of mains belonging to the trust is 1,082,099 feet. The aggregate length of service pipes is 333,408 feet, making nearly 20½ miles of mains, and more than 63 miles of services.

During the first six months of the year but little was done in the way of extensions of street mains, or the introduction of new services and meters, but upon the passage of the ordinance July 13th, 1855, authorizing farther expenditures for these purposes, arrangements were immediately made for procuring pipes to meet the large number of applications that had accumulated during the temporary discontinuance of operations.

As the only source from which funds could lawfully be obtained to defray the cost of these extensions was the sale at par of the loan authorized by Councils, the laying of the pipes could be carried on no faster than such sales were effected; and some delay necessarily arose from this circumstance. When the matter came to be fully understood by the citizens applying for gas, most of them promptly agreed to take the requisite amount of loan, or to pay the difference between its par and the market rates at which capitalists were willing to purchase. Under these arrangements, a large amount of work was done in this department during the last few months of the year, so as to meet the wishes of a large proportion of the applicants. By virtue of the ordinance just alluded to, authority was obtained for the completion of the buildings at the new works in First Ward, whereby the economical advantages of these improvements should be most fully secured. The second section of furnaces and ovens in the retort house has been constructed, and the retorts and requisite connections are now nearly ready for use, as is also the purifying

and condensing apparatus belonging to it. There have also been erected two sections of the new coal stores upon an improved plan, designed to save much expense in the storing and handling of coal. The repairs upon the large gas-holder were completed early in the autumn, and the preparation and adjustment of the additional parts that were unfinished at the time of the accident by which it was damaged, have since been carried nearly to a close. The gas-holder has already been lifted by inflation with air, in order to get it accurately centered, and to test properly the tension of its various parts. Its performance in these trials has been every way satisfactory, so that it may now be used for the reception of gas as soon as the tank shall be filled with water, which process is now going on.

At the period of my last annual report, these new works had been but recently put in operation, and the favorable account of their working then given was derived from the results of only a few weeks. It is therefore a matter of some interest to inquire whether further experience has confirmed this early promise.

By the collation of several of the statistical details of the different manufacturing stations for the year just past, it will be perceived that the first deductions have been fully borne out by the more extended operations.

In order to obtain a comparative view that shall be entirely free from extraneous sources of error or inequality, such as might be attributable to a disparity in the magnitude of the operations, the details that have been thus compared are those of the most elementary kind, which are unaffected by the greater or less scale of magnitude. These elementary statistics are, the quantity of gas produced daily from each retort in action, the quantity resulting from each unitary expense for labor of stokers and helpers at the retorts, from each pound of coal, and from each bushel of coke consumed.

The several items are taken from the carbonizing accounts of the respective factories, for the month of December just closed,

and also from the several averages for the past year. The make of gas per day, which each retort averaged in December, was

6,777 feet at the new works in First Ward.
4,386 " " old " Ninth "
4,095 " " Spring Garden, Fifteenth Ward.

The daily average yield of each retort for the year, was

5,480 feet at the works in First Ward.
4,111 " " " Ninth "
3,534 " " " Fifteenth Ward.

The price paid for labor of hands in charge of the retorts, is now the same per retort at all the stations, and consequently the cost of this item is in the inverse ratio of the quantities stated above: the figures there given showing the number of cubic feet obtained by 60 cents cost of retort house labor.

The proportion of gas from each unit of fuel at the three stations for the year, is

598 at the works in the First Ward.
422 " " " Ninth "
351 " " " Fifteenth Ward.

And the quantity from each pound of coal respectively:

$4\frac{30}{100}$ feet at the works in First Ward.
$3\frac{89}{100}$ " " " Ninth "
$3\frac{83}{100}$ " " " Fifteenth Ward.

The highest monthly yield to the pound of coal is considerably more, being $4\frac{55}{100}$ feet in the First Ward, $4\frac{34}{100}$ in the Ninth, and $4\frac{15}{100}$ in the Fifteenth Ward.

Large as may appear the contrast between the productiveness of the works in the Fifteenth Ward and those in the First and Ninth, as shown by the details of their average operations, the daily records show that these averages, especially those for the month of December, give evidence of a marked improvement at the Fifteenth Ward works in the course of the few months those works have been under the direction of the Trustees. The system of working the retorts prevailing there when the establishment was placed in the care of the Trust, was quite different in some

respects from ours; and as in the absence of previous daily records there was no means of ascertaining with precision the relative merits of the two systems, it was deemed right to make no change until the results of several months' operations should be accurately recorded. The comparison with the averages just given is clearly shown by the following statement of similar details taken in April last, immediately upon the works coming into the Trust. The daily average yield per retort at that time was 3,192 feet; the number of feet obtained from 60 cents cost of retort house labor was 1,915 cubic feet, and from each unit of fuel 309 feet; the yield to the pound of coal $3\frac{6}{10}$ cubic feet. Collating these numbers with those given above, we obtain the following comparative statement of results at the Fifteenth Ward station:

	Gas per lb. of Coal.	*Gas per bushel Fuel.*	*Gas per 60c. Labor.*
April, 1855,	3 60-100 cubic feet.	309 cubic feet.	1,915 cubic feet.
December, 1855,	4 15-100 " "	411 " "	4,095 " "

It will be perceived that the contrast in these quantities yielded in the same apparatus is greater, considerably, than that between the best results of the different works. The very large change in the results of a unit of cost of labor has not arisen in any material degree from a change of wages for the stokers, for whose skilled labor the chief expenditure is made, now receive the same daily wages as they did before. The difference results chiefly from the classification of the workmen, and payment by piece-work, whereby those having most skill can earn an increased amount proportionate to their ability, while those yet in pupilage obtain a per diem but little greater than ordinary day laborers.

As the facts demonstrated by the records of three months left no doubt of the propriety of introducing the system long tried at the old works, the change was directed to be made, and the improved results afford evidence of its advantages. In some of the districts where the gas mains have recently come into our charge, there appears not to have been due care taken to make the joints sufficiently perfect to prevent an undue waste of gas. This is most especially the case in the wards composing the late district of Spring Garden, in which the joints have been found to leak very much at every point where they have been examined. A

large number of these defective joints have been dug up and repaired, but many more remain, which should be repaired as soon as practicable, so as to stop the waste and annoyance they create. In the course of the investigation of this subject it became desirable to ascertain the extent of the loss by a comparison of the quantity of gas sold with that made at the works. The latter is stated by the late Superintendent, in his Report to Councils, to have been somewhat more than sixty-six millions cubic feet in the year 1854; the quantity sold appears from the statements in the Register's office, to have been nearly thirty-eight millions of feet; showing a discrepancy of about twenty-eight million feet, or 42 per cent. It would seem almost incredible that the large volume of more than two hundred million of gallons of fetid gas could be thrown into the streets of these few wards without producing an intolerable nuisance, which would be most unpleasantly evident to every inhabitant. As it was a possible supposition that this enormous apparent discrepancy may have partly arisen from some error in the supposed quantity of gas made, which the want of proper records at the works prevented an opportunity of discovering and correcting, it was thought best to take an account of all the meters in the district at the close of every month, until sufficient data were collected for making an exact comparison between the production and consumption. The summing up of three months examinations shows a loss of not quite twenty per cent., which, although much greater than ought to occur, is less than half that above stated, and tends to confirm the impression that some error has found its way into the statements of the previous year. This idea receives additional support in the fact that the consumption of the past nine months, which is nearly equal to that of the entire previous year, has been supplied by the manufacture of nearly thirty per cent. less gas than is stated to have been made in that year. The very large demand for extensions of main pipes and additional service pipes and meters, that had to be supplied in the last few months of the year, made it necessary to organize a strong force in these departments upon quite short notice; and consequently

the arrangements for carrying on the work could not be made as complete as was desired; but before the close of the season the organization of the business was so much improved as to leave no doubt of the practicability of carrying on the work of the entire department economically and energetically, under a single central administration, with subordinate responsible heads in the several gas districts. Neither is there any doubt of a similar economy being obtained by the concentration, at a future day, of the entire manufacture at a single station. As the factories now in operation at the three stations will be sufficient to meet the probable increase of demand for the next two years, there is no reason for making immediate additions to the works in First Ward, unless the gain in economy of manufacture be deemed of sufficient importance to warrant the outlay of capital required for the removal of the other works. Should this not be deemed expedient at the present time, the removal may be effected gradually in the course of a few years, by the application of part of the annual net profits, without making any further demands upon capital.

In my last annual report an account was given of certain experiments in the manufacture of gas from wood, the favorable results of which had induced the Board to authorize the construction of ten additional retorts, suitable for wood gas. These were completed and put in action early in March, since which time they have been working regularly and with complete success. The gas made has been more than a million of feet from each retort, and will probably reach a million and a quarter before all the retorts are used up. With the additional experience now gained, there is reason to believe that each retort can be made to produce from one and a half to two millions of cubic feet of gas, the quality of which has been frequently tested photometrically, and found to be such that the light obtained from a cord of 128 cubic feet of ordinary pine wood is equal to 800 pounds of spermaceti candles. Oak or maple, of good quality, will yield gas equal to more than nine hundred pounds of spermaceti candles to the cord. These results are

obtained from the wood used in large billets, without particular care in drying. When the wood is well dried, and split into small pieces, the illuminating effect is very much increased; the product per cord of prime wood having equaled over 1,800 pounds of spermaceti candles of Judd's patent. The volume of gas to the cord averages about 12,000 cubic feet for common shore pine of very inferior quality, and 15,000 to 17,000 from dry oak; and the illuminating power by photometric determination is about 25 candles for 4½ feet consumption, or nearly 5½ candles to each foot of consumption per hour. The wood apparatus, in its latest form, has also been applied with much success to the making of gas from coal; the yield to the pound of coal and the quality of the gas being sensibly better than in the ordinary retorts, and the product of tar much diminished. From Pittsburg coal, which yields an average in all these works of about 4½ feet to the pound, and a maximum of $4\frac{83}{100}$, there has been produced in the cellular retort used for wood gas as much as $5\frac{70}{100}$ feet to the pound.

It is once more my duty to advert to the subject of providing suitable accommodations for the residence of workmen in the First Ward. The men employed there have been obliged to encounter much unnecessary toil and privation in consequence of their remote residence. Many have been compelled, most reluctantly, to abandon the employment, notwithstanding a very large expenditure in providing conveyances; and the tax to the works from this cause, as well as the hardship endured by the men employed, must increase annually until some remedial action is applied.

The usual tabular statements, hereto appended, will furnish a condensed view of the most important statistics both for the past year and for the whole series of annual operations since the commencement of the works.

Respectfully,

JOHN C. CRESSON,

Engineer.

Philadelphia City Gas Works,
January 11, 1850.

CASHIER'S REPORT.

To the Trustees of the Philadelphia Gas Works.

GENTLEMEN:—I have the honor of submitting to you a statement of the condition of the finances of the Trustees, as exhibited by the books January 1st, 1856.

I have the pleasure to state that the profits on the business for the entire year 1855, meet fully every engagement and liability, and leave a balance in favor of the contingent fund.

The system of rules and regulations which the trustees found so efficient prior to the consolidation of the various gas works, have been introduced into the offices provided for the accommodation of the citizens in the fifteenth, twenty-third, and twenty-fourth wards. By means of this system it has been discovered, that in the fifteenth ward there is a large discrepancy between the quantity of gas manufactured at the works in that ward, and the amount consumed during the last nine months of the year which has just closed; showing a loss of full twenty per cent upon the amount manufactured. The other works exhibit much more satisfactory results.

Of the loan of $500,000, authorized by Councils July 13th, 1855, $131,700 has been used by the trustees: a large proportion of this sum was absorbed in discharging the indebtedness existing against the works assumed by the trustees under the ordinance of March last, at the time those works were taken.

The stringent condition of the money market, and the various loans pressing on it during the greater part of the past year, prevented that loan from being made more available for the purposes of the trustees: at no time could it be made to sell at par. It is believed, however, that if this loan could be placed on the same basis with the other gas loans, it would command an advance of at least three per cent upon the present market price.

The sinking fund of the trust may absorb of this loan $143,000, to make it entire.

It is but justice to the employees in the various offices to say, that they are diligent, faithful and obliging, in the discharge of their duties.

Very Respectfully,

JOHN WIEGAND, *Cashier.*

Cash Account.

DR.

Balance, January 1st, 1855, - - - - -	$35,594	97
Receipts in 1855.		
For Sales of Gas, - - - - - -	627,439	26
" Coke, Tar and Lime, - - -	49,585	32
" of old Materials, - - - - -	1,648	32
" of Charcoal, - - - - -	1,113	76
" of Wood, - - - - -	1,051	83
" of Hay, - - - - -	333	75
" of Bituminous Coal, - - -	237	25
Rents, - - - - - - - -	40	00
Extra Service Pipes and Meter Cocks, -	14,283	08
Sales of Loan 9, - - - - -	131,700	00
Temporary Loans, - - - - -	538,849	30
Five per cent. Loan, due 1855, - -	600	00
Interest on City Loans, - - - -	2,722	00
Interest on Sales of Loan 9, - - -	143	25
	$1,405,342	04

CR.

Payments in 1855.

For the construction and enlargement of the Works, - - - - - - -	$170,902	95
Extension of the Street Mains, - -	64,936	03
Service Pipes and Meters, - - -	36,546	69
Coal and other materials used in the manufacture of Gas, wages of Workmen, &c.,	417,896	05
Repairs of the Works, Street Mains, &c.,	58,700	00
Incidental Expenses, - - - - -	65,245	73
Salaries of Engineer, Cashier and Register, and services of Clerks, - -	9,363	86
Temporary Loans paid, - - - -	402,399	99
Interest on Temporary Loans, - - -	6,813	52
Discount on Warrants on City Treasurer, -	5,393	54
Interest on Loans, - - - - -	54,417	65
Investment for Sinking Fund, - - -	547	50
City of Philadelphia, per ordinance of March 20, 1855, - - - - - -	36,000	00
Balance on hand, January 1st, 1856, -	77,178	04
	$1,405,342	04

STATE OF THE WORKS, JANUARY 1, 1856.

Assets.

Works,	$1,012,869 34
Street Mains,	607,362 39
Service Pipes and Meters,	309,243 18
Public Lamps,	11,814 02
Cash,	77,178 04
Suspended Debt,	4,876 50
Stocks belonging to the Sinking Fund,	562,729 00
Stocks belonging to the Sinking Fund, in the hands of the City Treasurer, as per ordinance March 20th, 1855,	9,144 00
Coal on hand,	85,537 50
Rosin on hand,	6,630 00
Wood,	6,600 00
Coke,	2,400 00
Due for Gas sold, delivered, and on hand,	148,112 53
Due for Coke, Tar, Lime, &c.,	5,190 20
Interest on City Loans, due January 1st, 1856,	1,362 50
Wharf Lot on the Schuylkill,	6,000 00
Site of the new Gas Works,	36,957 69
Spring Garden Gas Works,	300,000 00
Moyamensing Gas Works,	80,000 00
West Philadelphia Gas Works,	50,000 00
Frankford Gas Works,	20,000 00
Due for Gas in Spring Garden,	783 15
Due for Gas in West Philadelphia,	295 32
Warrants on the City Treasurer,	21,353 90
	$3,365,939 21

STATE OF THE WORKS, JANUARY 1, 1856.

Liabilities.

Loans 1, 2, 3, 4, 5, 6, 7 and 8,	$1,370,000	
Loan 9,	131,700	
		$1,501,700 00
Dividends unpaid,		405 00
Interest on Gas Loans, including that due Jan. 1st, 1856,		28,322 95
For Coals, Repairs and Materials used in the manufacture of Gas,		188,948 56
Temporary Loans,		141,449 31
Sinking Fund,		705,320 20
Sinking Fund, as per ordinance of March 20th, 1855,		9,144 00
Contingent Fund,		336,272 69
Profit and Loss, (amount of Suspended Debt,)		4,376 50
City of Philadelphia, for works taken, as per ordinance of March 20th, 1855,		450,000 00
		$3,365,939 21

STATEMENT OF THE SINKING FUND.

1855.			
Jan'y 1,	Amount of the Sinking Fund, -		$628,413 20
	Increase of the Sinking Fund in the year 1855:		
June 30,	6 months' interest on $402,000 Gas Loans, at 6 per cent., -		12,060 00
	6 months' interest on $93,000 Gas Loans, at 5 per cent., - -		2,347 50
	6 months' interest on $8,500 City Loans, at 6 per cent., - -		255 00
	6 months' interest on $44,300 City Loans, at 5 per cent., - -		1,107 50
	6 months' appropriation of 2 per cent. per annum, on $475,000 Loans, 1, 2 and 3, - - - -	$4,750	
	of 3 per cent. per annum on $125,000, Loan 4,	1,875	
	of 4 per cent. per annum on $770,000, Loans 5, 6, 7, 8,	15,400	
			22,025 00
Dec. 31,	6 months' interest on $402,000 Gas Loans, at 6 per cent., - -		12,060 00
	6 months' interest on $93,900 Gas Loans, at 5 per cent., - -		2,347 50
	6 months' interest on $8,500 City Loans, at 6 per cent., - -		255 00
	6 months' interest on $44,300 City Loans, at 5 per cent., - -		1,107 50
	6 months' appropriation of 2 per cent. per annum, on $475,000 of Loans 1, 2 and 3, - -	4,750	
	of 3 per cent. per annum on $125,000 of Loan 4,	1,875	
	of 4 per cent. per annum on $770,000 of Loans 5, 6, 7 and 8, - -	15,400	
	of 2 per cent. per annum on $131,700 of Loan 9,	1,317	
			23,342 00
			$705,320 20

The amount invested is as follows:

1855.			
Jan'y 1,	Cost of investments at this date, -		$562,781 50
	Received for Certificate of City Loan, which became due Jan'y 1, 1855, - - - -	$600 00	
	Bought Certificate of City 6 per ct. Loan for $600, at a cost of - - -	547 50	
			52 50
			$562,729 00
	Balance not invested, - - -		142,591 20
			$705,320 20

Note.—Since the first day of January, 1856, the sum of $142,000 has been directed to be invested for the Fund, in Gas 6 per cent, Loan 9th.

STATEMENT OF THE SINKING FUND,

Directed to be accumulated and applied by City Treasurer as per ordinance of March 20th, 1855, for the redemption of $450,000, the estimated value of the Spring Garden, Moyamensing, West Philadelphia and Frankford Gas Works, placed in charge of the Trustees, by said ordinance.

1855.		
June 30,	Cash paid City Treasurer for said fund, - - - - - -	$4,500 00
Dec. 31,	Do do do	4,500 00
	6 months' interest on $4,800 City 6 per cent. Loan, purchased by City Treasurer for said fund, -	144 00
		$9,144 00
The investments of said fund are as follows:		
	$4,800 City 6 per cent. Loan, -	4,425 75
	Amount not invested Jan'y 1, 1856,	$4,698 25

Note.—The City Treasurer has, since the 1st of January, reported a further purchase of $5,100 of City 6 per cent. Loans, for account of the fund, at a cost of $4,610 25
leaving a balance uninvested, of 88 00
$4,698 25

CITY AND GAS LOANS BELONGING TO THE SINKING FUND, JANUARY 1, 1856.

Five per cent. City Loans:

Redeemable in 1856,	- -	$ 300	
1857,	- -	2,200	
1858,	- -	7,100	
1859,	- -	4,000	
1861,	- -	1,100	
1862,	- -	1,000	
1867,	- -	3,900	
1870,	- -	9,700	
1871,	- -	5,200	
1872,	- -	7,300	
1873,	- -	2,200	
1874,	- -	300	
			$44,300 00

Six per cent. City Loans:

Redeemable in 1876,	-	6,600	
" 1881,	-	600	
" 1889,	-	1,300	
			8,500 00

Six per cent. Gas Loans:

No. 1, redeemable in 1862,	-	10,400	
" 2, " 1863,	-	57,300	
" 3, " 1861,	-	32,100	
" 5, " 1868,	-	36,100	
" 6, " 1869,	-	14,100	
" 7, " 1870,	-	66,100	
" 8, " 1872,	-	185,900	
			$402,000 00

Five per cent. Gas Loan:

No. 4, redeemable in 1866,	-	-	93,900 00
			$548,700 00
The cost of the above was	- -	-	$562,729 00

STATEMENT OF THE PROFIT AND LOSS ACCOUNT, FOR 1855.

1855.		
Jan'y 1,	Amount due for Coals, Materials and Repairs, chargeable to the manufacture of Gas,	$234,924 95
Dec. 31,	Sales of Gas in 1855,	623,291
	" Coke, Tar and Lime,	53,733 11
	" Old Materials,	1,648 32
	" Charcoal,	1,113 76
	" Wood,	1,051 83
	" Hay,	333 75
	" Bituminous Coal,	237 25
	Rents,	40 00
	Stock of Coal on hand,	85,537 50
	" Rosin on hand,	6,630 00
	" Wood on hand,	6,600 00
	" Coke on hand,	2,400 00
	Due for Coke, Lime, &c.,	5,190 20
	" Gas,	148,112 53
	City Warrants, received for Gas,	21,353 90
	Due for Gas in Spring Garden,	783 15
	" West Philadelphia,	295 32
	Suspended Debt, to Jan. 1, 1856,	4,376 50
	Interest on sales of Loan 9,	143 25
		$1,197,796

Jan'y 1,	Amount of stock on hand, and debts due to the works at this time,	234,724 86
	Due from City of Philadelphia,	20,404 60
	" Moyamensing,	4,468 90
	" West Philadelphia,	3,128 55
Dec. 31,	Payments against the manufacture of Gas, Coal, and other materials, and Wages,	417,396 05
	Repairs,	58,700 49
	Incidental Charges,	65,245
	Salaries of Engineer, Cashier, and Register, and Services of Clerks,	9,363 86
	Amount carried forward,	$813,433

1855.	Amount brought forward, - -		$813,433 46
Dec. 31,	Interest on Temporary Loans, - -		6,966 50
	Discount on City Warrants, - -		5,268 56
	Eight per cent. on $450,000, paid to City Treasurer, as per ordinance approved March 20, 1855, - -		36,000 00
	Interest on Loans for the year 1855,		84,901 00
	Appropriation to Sinking Fund, as directed by ordinances, - -		45,367 00
	Due for Coal, Repairs, and Materials used in the manufacture of Gas, -		188,948 56
	Suspended debt, January 1st, 1855, -		8,862 40
	Balance, - - - -		13,577 73
			$1,197,796 91

The above balance of	$13,577 73	
less the sum of - - - - -	514 10	
being the increase of the suspended debt during the year, gives the net increase of the Contingent Fund for 1855, - - - - - -		$13,063 63

STATEMENT OF THE CONTINGENT FUND, FOR 1855.

Amount of the Fund, January 1st, 1855, -		$317,979 67
Increase from receipts for Gas in Moyamensing,		5,229 39
Increase during the year, as per the profit and loss account, - - - - -		13,063 63
		$336,272 69
The amount raised under various ordinances for the construction and enlargement of the works, and for extraordinary repairs and renewals, and for working capital, has been to January 1st, 1856,		
Loans 1, 2, 3, 4, 5, 6, 7 and 8,	$1,370,000	
Loan 9, sold, - - -	131,700	
		$1,501,700 00
City of Philadelphia for works, per ordinance of March 20th, 1855, - - -		450,000 00
Contingent Fund, derived from profits, -		336,272 69
		$2,287,972 69
The amount expended has been:		
Construction of Works, - - -		$1,012,869 34
Street Mains, - - - -		607,362 39
Service Pipes and Meters, - - -		309,243 13
Public Lamps, - - - -		11,814 02
Wharf Lot on the Schuylkill, - -		6,000 00
Site of the new Gas Works, - -		36,957 69
Spring Garden " - - -		300,000 00
Moyamensing " - - -		80,000 00
West Philadelphia " - - -		50,000 00
Frankford " - - -		20,000 00
		$2,434,246 57
The Liabilities of the Works, Jan. 1st, 1856, are as follows:		
Construction of Works, Street Mains, Service Pipes and Meters, - - -		105,736 81
Coals, Repairs, and Materials used in the manufacture of Gas, - - -		188,948 56
		$294,685 37

1855. ENGINEER'S ACCOUNTS.

WORKS.	Dolls.	C.
Wages of laborers and fitters employed in erecting new Works,	31,007	93
Castings,	80,553	73
Mason work & bricklaying,	6,859	32
Lumber,	11,563	51
Stone,	4,929	43
Fire brick and Tile,	4,079	03
Slates and Slating,	2,805	00
Bricks,	2,664	03
Carting,	2,647	99
Iron,	3,916	00
Castings,	1,927	19
Gas Bill, due by Frankford,	2,736	10
Wharf,	1,450	00
Station Meters,	2,833	40
Valves and Stop Cocks,	1,708	25
Tubing,	1,709	58
Lime,	662	25
Ship Chandlery,	543	93
Galvanized Iron,	556	32
Ground Rent due by Sp. Garden,	987	00
Paints. Oil, Glass, &c.,	453	22
Smith Work,	447	08
Plastering and Cement Work,	330	00
Lead and Tin,	572	32
Hardware,	360	41
Iron Borings,	235	81
Clay Retorts,	189	93
Coal,	198	77
Wharfage,	153	00
Drawings and Survey,	123	00
Scales,	119	50
Machine Work,	160	30
Nails,	131	45
Furnace,	131	00
Brushes,	117	48
Wire Work,	111	24
Cement,	84	12
Plumbing,	93	15
Trunk Boards,	85	80
Leather,	74	37
Pumps,	70	00
Improving Long Lane,	63	22
Wheelwright Work,	54	00
Sand,	46	40
Stoves,	43	50
Towing,	23	00
Gas Fixtures,	17	50
Blinds,	18	70
Turning,	12	25
Lead Pipe, Wire and Sheet Lead,	66	10
Rivets,	49	30
Sash,	93	14
Sundries,	32	90
Total,	170,902	95

STREET MAINS.	Dolls.	C.
Wages of Men employed in laying Mains in Streets,	8,706	[illegible]
Pipes and Castings,	50,821	71
Lead,	4,165	26
Carting,	1,086	[illegible]
Ship chandlery,	106	65
Picks and pick-handles,	38	75
Furnace,	10	[illegible]
Total,	64,936	03

SERVICES.	L
Wages of Men employed in laying Pipes, and setting and fitting up Meters,	11
Meters,	13
Tubing,	6
Stop Cocks,	1
Blankets,	
Paving,	
Lumber,	
Lead Pipe,	
Service Pipes and Meters, laid in Penn District,	
Iron and Nails,	
Tin,	
Fittings,	
Carting,	
White Lead,	
Smith Work,	
Total,	36,7

GAS.	Dolls.	C.
Wages of Stokers, etc., employed in Retort Houses and Purifying Houses, Manufacturing Gas and Wheeling Coke, Coals, etc.	77,522	15
Coals,	299,827	37
Freight on Coal,	16,493	44
Carting and Towing,	16,02.	36
Gas Furnished Frankford,	2,093	16
Lime,	2,217	35
Oyster Shells,	2,545	19
Siding,	256	25
Grease, etc.	238	16
Exchange,	177	12
Total,	417,396	05

REPAIRS.	Dolls.	C.
Wages of Carpenters, Blacksmiths, Bricklayers, Fitters and Laborers, engaged in repairs of Works, Street Mains, and Services,	26,908	37
Castings,	17,131	10
Meters,	4,101	66
Fire Brick and Clay,	3,803	40
Iron,	1,862	02
Lumber,	722	64
Hardware & Nails,	683	01
Oil and Paints,	539	63
Galvanizing Pipe,	472	37
Dredging,	264	00
Machinist Work,	219	91
Wheelright Work,	253	85
Bricks,	293	17
Coal Wagons,	226	17
Shovels,	163	75
Bolts and Nuts,	141	14
Iron Borings,	94	31
Hammer, File and Axe Handles,	73	31
Tin Work,	87	82
Birch Brooms,	71	49
Buckets & Baskets,	73	46
Cotton Waste,	75	28
Brushes,	73	53
Roofing,	74	89
Repairing Scales,	40	10
Tools,	61	00
Sand and Mica,	39	15
Hose,	37	96
Stoves & Furnace,	24	40
Fire Proof,	20	00
Taps,	11	75
Carting,	17	15
Tubing,	7	80
Lanterns,	6	00
Sundries,	24	90
Total,	58,700	40

INCIDENTALS.	Dolls.	C.
Wages of Clerks, Men employed in the inspection of Fittings and Meters, and taking Statements for Bills, Storing Coals and Coke at Works, measuring Coke, Tar, etc.,	47,737	60
Rents,	6,004	28
Carting,	1,950	62
Taxes and Water,	1,352	82
Printing, Stationery and Engraving,	1,875	68
Horse Feed,	986	10
Sundries for Board and Councils' carriage hire, etc.,	814	64
Barrels,	436	78
Horses,	400	00
Subscription and Advertising,	402	51
Horse Shoeing and Smith Work,	288	73
Horse Hire,	287	75
Wheelwright and Coach Work,	252	80
Paints, Oils, etc.	206	34
Alcohol,	209	81
Travelling Expenses	21[illegible]	0
Saddlery,	24[illegible]	6
Reports lighting,	14[illegible]	0
Gas Burners,	11[illegible]	25
Ship Chandlery,	11[illegible]	9
Office Furniture,	10[illegible]	0
Groceries,	13[illegible]	7
Soap and Tallow,	8[illegible]	2
Coal,	9[illegible]	9
Muslin,	7[illegible]	8
Hardware,	4[illegible]	9
Blankets,	4[illegible]	7
Birch Brooms,	4[illegible]	7
Professional Services,	26	37
Tin and Wire Work,	10	40
Ice,	56	30
Machine Work,	47	75
Reports,	54	00
India Rubber Goods	30	25
Lanterns,	9	00
Sundries,	290	43
Total,	65,245	75

CITY REGISTRY.

DATE.	Applications.	Removals and Discontinuances.	PRIVATE LIGHTS.		PUBLIC LIGHTS.		
1855.			Added.	Total.	Streets.	Market Houses.	Squares.
To January 1st,	29638	15734	18127	200729	1820	50	85
January, - -	213	153	906	201635			
February, - -	170	135	981	202616	1		
March, - -	229	187	725	203341	14		
April, - -	281	225	1032	204373	4		
May, - - -	325	254	1222	205595	*719	18	
June, - - -	265	229	753	206348			
July, - - -	260	159	812	207160			
August, - -	404	215	1848	209008	3		
September, - -	465	290	3019	212027			
October, - -	582	334	2971	214998			
November, - -	503	276	2972	217970	38		
December, - -	†13782	†6028	†65246	†283216	†589	8	
Total, - -	17479	8485	82487		1368	26	
Brought down, -	29638	15734	18127		1820	50	85
Grand Total, -	47117	24219	100614	283216	3188	76	85

* Including all in Spring Garden.

† Including all in Moyamensing, Spring Garden, Penn and 23d and 24th Wards.

DATE. 1855.	Services Laid.	METERS SET. 3 light.	5 light.	10 light.	20 light.	30 light.	45 light.	60 light.	100 light.	150 light.	PUBLIC LAMPS. On Posts.	On Wall.	Market Houses
To January 1st,	14,013	7,023	4,011	2,139	570	144	67	22	36	1	1,580	241	50
January, -	56	22	10	10	8		1		1				
February, -	33	24	8	12	4	1	1		1				
March, - -	47	23	11	3	8	2					2	2	
April, - -	81	46	29	8	5		1	1			3	1	
May, - -	71	39	17	11	4	1			1		194		8
June, - -	32	12	6	7	4	1	1		1		693	2	18
July, - -	96	54	22	13	2		1	1					
August, - -	200	141	45	9	5		1		1			2	
September, -	184	116	35	15	9	2	2	1	1				
October, * -	5,332	2,652	2,431	150	61	10	9	6	11				
November, -	406	219	126	40	12	3					37		
December,† -	1572	942	418	91	28	8	11	2	6			7	
Total, - -	8,110	4,290	3,158	369	150	28	28	11	23		929	14	26
Brought down,	14,013	7,023	4,011	2,139	570	144	67	22	36	1	1,580	241	50
Grand Total, -	22,123	11,313	7,169	2,508	720	172	95	33	59	1	2,509	255	76

* Including all in Spring Garden and Penn.

† Including all set, previous to 1855, in the 23d and 24th Wards.

DATE.	MAIN PIPE LAID IN STREETS, LINEAL FEET.										
1855.	1½ inch	2 inch	3 inch	4 inch	6 inch	8 inch	10 inch	12 inch	16 inch	20 inch	TOTAL.
To January 1st, - -	426	114867	240142	154672	39217	26865	14324	13500	11133	14619	629765
January, - - -											
February, - - -											
March, - - -											
April, - - -											
May, - - -											
June, - - -											
July, - - -											
August, - - -		36	217	4662	45			2153			7113
September, - -			484	3402							3886
October, - - -		1615	9016	5482			1551	973		700	19337
November, - -		1620	2826	2727		8700				3161	14034
December,* - -			190415	157016	36333	18297	1600	5150		4158	407964
Total, - - -		3271	202958	173289	36378	16997	3151	8276		8014	452334
Brought down, - -	426	114867	240142	154672	39217	26865	14324	13500	11133	14619	629765
Grand Total, - -	426	118138	443100	327961	75595	43862	17475	21776	11133	22633	1082099

* Including all laid, previous to 1855, in Spring Garden, Penn, Moyamensing, 23d and 24th Wards.

REPAIRS OF SERVICES.

1855.	Stop Cocks Renewed.	New Covers for Stop Cock Boxes.	Services Renewed.	New Stop Cock Boxes.
January, - - -	7	5	4	3
February, - - -	7	2	4	2
March, - - - -	18	6	5	6
April, - - - -	17	13	4	45
May, - - - -	4.	31	0	111
June, - - - -	14	20	5	126
July, - - - -	5	0	2	0
August, - - -	11	3	6	3
September, - - -	17	2	8	1
October, - - -	20	5	8	4
November, - - -	22	5	10	0
December, - - -	16	1	6	1
Totals,	153	93	62	302

STATEMENT OF GAS

Paid for in each month of the year, made in the First and Ninth Wards, being the Amount of Bills as per Meters, to the first of the month.

1855.	Feet of Gas Consumed at Private Houses.	Public Lamps.	DISTRICTS. Southwark.	Moyamensing.	West Philadelphia.	TOTAL.
Jan. - -	22,011,900		5,122,500	3,000,000	2,994,500	33,128,900
Feb. - -	24,407,400					24,407,400
Mar. - -	23,474,500	10,481,250				33,955,750
April -	20,038,400		4,818,000	2,698,100	3,056,800	30,611,300
May - -	17,786,800					17,786,800
June - -	17,903,100	12,903,950				30,807,050
July - -	12,177,600		3,643,500	1,864,200	1,993,800	19,679,100
Aug. - -	9,613,900					9,613,900
Sept. -	10,095,000	9,775,850				19,870,850
Oct. - -	10,446,900		3,619,000	1,839,100	1,943,000	17,848,000
Nov. - -	16,937,700					16,937,700
Dec. - -	23,349,200	13,414,900				36,764,100
Total,	208,242,400	46,575,950	17,203,000	9,401,400	9,988,100	291,410,850
Inventory of Stock of Gas delivered and on hand—					*Feet.*	
January 1st, 1856, - - -					64,144,865	
January 1st, 1855, - - -					61,754,800	
						2,390,065
						293,800,915

ANNUAL REGISTRY

OF CONSUMERS, AND PRIVATE AND PUBLIC LIGHTS.

DATE. To Dec. 31st.	Applications.	Removals and Discontinuances.	Total Number of Consumers.	PRIVATE LIGHTS.		PUBLIC LIGHTS.			
				Added.	Total.	Streets.	Market Houses.	Squares.	Total.
1836	301	24	277	2952	2952	165			165
1837	497	108	666	3862	6814	136			301
1838	849	174	1341	4288	11102	133		62	496
1839	946	300	1987	5380	16482	162	18		676
1840	788	382	2393	3317	19799	112	1		789
1841	874	493	2774	4387	24186	13	8		810
1842	845	541	8078	3054	27240	30			840
1843	986	635	8429	3418	30658	59			899
1844	1000	508	8926	4940	35598	195			1094
1845	1147	629	4444	5754	41352	112			1206
1846	1465	717	5192	8138	49490	96			1302
1847	1869	887	6174	12987	62477	84	10		1396
1848	1956	1002	7128	13935	76412	21			1417
1849	2101	1180	8139	18050	94462	74			1491
1850	2227	1150	9216	20542	115004	72	13		1576
1851	2529	1839	10406	21616	136620	124			1700
1852	3004	1747	11663	20550	157170	118			1818
1853	3280	1954	12989	25432	182602	87		23	1928
1854	2884	1969	13904	18127	200729	27			1955
1855	17479	8483	22898	82487	283216	1368	26		3349
Total.	47117	24219		283216		3188	76	85	

STATEMENT OF METERS SET EACH YEAR.

DATE.	Services Laid.	METERS SET.								
December 31st.		3 light.	5 light.	10 light.	20 light.	30 light.	45 light.	60 light.	100 light.	150 light.
1836	251	108	98	31	9	2	3			
1837	411	301	77	19	6	2	3		3	
1838	690	442	159	61	13	9	2	1	3	
1839	649	421	118	75	26	6	3			
1840	350	198	78	54	13	3	2		2	
1841	375	203	93	63	14	2				
1842	299	157	76	57	6	3				
1843	348	180	110	50	7	1				
1844	503	292	129	72	5	3	1		1	
1845	523	311	151	49	7	4		1		
1846	761	390	237	113	14	4	2	1		
1847	999	481	300	202	12	1	3			
1848	971	408	333	196	25	4	3	1	1	
1849	1029	366	366	234	46	7	5	2	3	
1850	1079	435	412	165	50	8	3	3	3	
1851	1211	534	373	204	76	15	4	2	3	
1852	1261	638	334	200	60	18	7	3	1	
1853	1364	688	360	167	92	23	12	6	15	1
1854	93[illegible]	470	207	127	89	29	14	2	1	
1855	8110	4290	3158	369	150	28	28	11	23	
Totals,	22123	11313	7169	2508	720	172	95	33	59	1

LENGTH OF MAINS LAID IN STREETS EACH YEAR, IN LINEAL FEET

DATE	12 inch	8 inch	6 inch	4 inch	3 inch	2 inch	10 inch	12 inch	16 inch	20 inch	TOTAL
1836,		2810	13931	10184	4018		9140				41084
1837,		3468	18068	4502	6084						[illegible]
1838,		150	15660	14400	9836		97	10881	9240		[illegible]
1839,		1704	11629	11997	4410	3798					[illegible]
1840,		252	1674	576	901						[illegible]
1841,		204	8874	7137	97						[illegible]
1842,		324	6831	3483	300	774					[illegible]
1843,		966	39796	16767	1305	1023					[illegible]
1844,		30696	38655	23555	9308	3003	911				[illegible]
1845,	426	3240	9300	4725	837						[illegible]
1846,		10734	9855	8412	879	9070					[illegible]
1847,		4164	6000	2808	900	180					[illegible]
1848,		1734	7678	8007	1158	477					[illegible]
1849,		9990	9117	6791	2001	18981	4900	9010	8070	498	[illegible]
1850,		6000	9618	6816	2718						[illegible]
1851,		11001	18411	10700	720	894					[illegible]
1852,		18804	10710	14058		1980				9907	[illegible]
1853,		7152	8744	8700	414				720	7987	[illegible]
1854,		678	1020	858							[illegible]
1855,		8271	20900	17858	8087	10997	8181	8970		8016	[illegible]
	426	111188	248100	187901	70000	68000	17470	31770	11180	32000	[illegible]

BY THE WORKS IN THE FIRST AND NINTH WARDS.

YEAR.	PUBLIC LIGHTS.	PRIVATE LIGHTS.	SPRING GARDEN.	SOUTHWARK	MOYAMENSING.	WEST PHILAD'A.	Used at Offices, Shops and Works, loss by leakage, etc.	MADE AT WORKS.
1836,	978,812	4,752,740					749,748	6,481,300
1837,	1,397,687	14,454,891					1,226,122	17,078,700
1838,	3,013,546	22,366,004					1,977,450	27,357,000
1839,	6,280,654	30,658,145					2,534,201	39,473,000
1840,	8,028,818	34,874,380					2,506,802	45,410,000
1841,	10,208,180	39,648,000					1,415,820	51,272,000
1842,	13,292,000	36,596,830					922,170	50,811,000
1843,	12,985,851	34,579,900					1,324,249	48,890,000
1844,	13,608,356	40,022,800					1,152,844	54,784,000
1845,	13,373,798	46,702,800					926,402	65,003,000
1846,	19,164,106	55,219,800	163,400				906,694	75,454,000
1847,	19,122,293	68,071,600	2,507,100				1,846,007	91,547,000
1848,	19,924,700	78,921,350	6,817,000				1,109,950	106,773,000
1849,	24,524,950	96,247,100	10,713,200	2,322,800	195,800		1,505,150	135,509,000
1850,	28,482,800	131,258,400	17,650,600	3,457,800	417,900		748,500	182,016,000
1851,	36,524,625	145,114,200	7,039,800	5,279,000	1,254,700		5,629,675	200,842,000
1852,	38,306,250	162,093,100		5,927,900	2,892,400	354,600	6,641,750	216,216,000
1853,	37,406,625	191,679,750		10,458,200	5,810,700	2,765,720	1,306,005	249,427,000
1854,	40,177,874	209,334,300		14,989,200	8,304,000	6,501,800	2,916,826	282,224,000
1855,	48,049,050	209,606,065		18,099,000	7,660,600	10,386,200	6,212,085	300,013,000
Total,								2,246,581,000
Statement of Gas delivered to public and private lights, from April 1st to Dec. 31st, 1855, by the works in the Fifteenth Ward, - - - - - - - - - - - - -							9,850,000	37,914,000

WORKS.	Dolls.	C.
Wages of laborers and fitters employed in erecting new Works,	31,007	93
Castings,	80,553	73
Mason work & bricklaying,	6,859	32
Lumber,	11,563	51
Stone,	4,929	43
Fire brick and Tile,	4,079	03
Slates and Slating,	2,805	00
Bricks,	2,664	03
Carting,	2,647	99
Iron,	3,916	00
Castings,	1,927	19
Gas Bill, due by Frankford,	2,736	10
Wharf,	1,450	00
Station Meters,	2,833	40
Valves and Stop Cocks,	1,708	25
Tubing,	1,709	58
Lime,	662	25
Ship Chandlery,	543	93
Galvanized Iron,	556	32
Ground Rent due by Sp. Garden,	987	00
Paints, Oil, Glass, &c.,	453	22
Smith Work,	447	08
Plastering and Cement Work,	330	00
Lead and Tin,	572	32
Hardware,	360	41
Iron Borings,	238	81
Clay Retorts,	189	93
Coal,	198	77
Wharfage,	153	00
Drawings and Survey,	123	00
Scales,	119	50
Machine Work,	109	30
Nails,	131	45
Furnace,	131	00
Brushes,	117	48
Wire Work,	111	24
Cement,	84	12
Plumbing,	93	15
Trunk Boards,	85	80
Leather,	74	37
Pumps	70	00
Improving Long Lane,	63	22
Wheelwright Work,	54	00
Sand,	46	40
Stoves,	43	50
Towing	27	00
Gas Fixtures,	17	50
Blinds,	18	70
Turning	12	25
Lead Pipe, Wire and Sheet Lead,	66	10
Rivets,	40	30
Sash,	93	14
Sundries,	32	00
Total,	[illegible]	

STREET MAINS.	Dolls.	C.
Wages of Men employed in laying Mains in Streets,	8,706	0
Pipes and Castings,	50,821	71
Lead,	4,165	26
Carting,	1,086	[illegible]
Ship chandlery,	106	65
Picks and pick-handles,	38	75
Furnace,	210	[illegible]
Total,	64 936	03

SERVICES.	Dolls.	C.
Wages of Men employed in laying Pipes, and setting and fitting up Meters,	11,557	50
Meters,	13,742	50
Tubing,	6,768	15
Stop Cocks,	1,745	72
Blankets,	944	03
Paving,	671	90
Lumber,	255	19
Lead Pipe,	169	56
Service Pipes and Meters, laid in Penn District,	479	34
Iron and Nails,	80	84
Tin,	71	07
Fittings,	20	25
Carting,	19	37
White Lead,	12	50
Smith Work,	8	77
Total,	36,546	99

1855. ENGINEER'S ACCOUNTS. 1855.

GAS.	Dolls.	C.
Wages of Stokers, etc., employed in Retort Houses and Purifying Houses, Manufacturing Gas and Wheeling Coke, Coals, etc.	77,52[illegible]	15
Coals,	299,82[illegible]	37
Freight on Coal,	16,49[illegible]	34
Carting and Towing,	16,02[illegible]	36
Gas Furnished Frankford,	2,09[illegible]	16
Lime,	2,217	35
Oyster Shells,	2,545	39
Siding,	25[illegible]	45
Grease, etc.	23[illegible]	36
Exchange,	177	12
Total,	417,396	05

REPAIRS.	Dolls.	C.
Wages of Carpenters, Blacksmiths, Bricklayers, Fitters and Laborers, engaged in repairs of Works, Street Mains, and Services,	26,908	37
Castings,	17,131	10
Meters,	4,101	66
Fire Brick and Clay,	3,803	40
Iron,	1,862	02
Lumber,	722	64
Hardware & Nails,	683	01
Oil and Paints,	539	63
Galvanizing Pipe,	472	37
Dredging,	264	00
Machinist Work,	219	91
Wheelright Work,	253	85
Bricks,	293	17
Coal Wagons,	226	17
Shovels,	163	75
Bolts and Nuts,	141	14
Iron Borings,	94	31
Hammer, File and Axe Handles,	73	31
Tin Work,	87	82
Birch Brooms,	71	49
Buckets & Baskets,	73	46
Cotton Waste,	75	28
Brushes,	73	53
Roofing,	74	89
Repairing Scales,	40	10
Tools,	61	00
Sand and Mica,	39	15
Hose,	37	96
Stoves & Furnace,	24	40
Fire Proof,	20	00
Taps,	11	75
Carting,	17	15
Tubing,	7	80
Lanterns,	6	00
Sundries,	24	90
Total.	58,700	49

INCIDENTALS.	Dolls.	C.
Wages of Clerks, Men employed in the inspection of Fittings and Meters, and taking Statements for Bills, Storing Coals and Coke at Works, measuring Coke, Tar, etc.,	47,737	60
Rents,	6,004	28
Carting,	1,950	62
Taxes and Water,	1,352	82
Printing, Stationery and Engraving,	1,875	68
Horse Feed,	980	10
Sundries for Board and Councils' carriage hire, etc.,	814	64
Barrels,	436	78
Horses,	400	00
Subscription and Advertising,	402	51
Horse Shoeing and Smith Work,	288	73
Horse Hire,	287	75
Wheelwright and Coach Work,	252	80
Paints, Oils, etc.	206	34
Alcohol,	269	81
Travelling Expenses	21[illegible]	0
Saddlery,	24[illegible]	36
Reports lighting,	14[illegible]	40
Gas Burners,	11[illegible]	25
Ship Chandlery,	11[illegible]	39
Office Furniture,	10[illegible]	30
Grocries,	13[illegible]	47
Soap and Tallow,	8[illegible]	42
Coal,	9[illegible]	19
Muslin,	7[illegible]	48
Hardware,	4[illegible]	19
Blankets,	4[illegible]	47
Birch Brooms,	41	47
Professional Services,	26	37
Tin and Wire Work,	10	40
Ice,	56	30
Machine Work,	47	75
Reports,	54	00
India Rubber Goods	30	25
Lanterns,	9	00
Sundries,	290	43
Total,	65,245	75

CITY REGISTRY.

DATE.	Applications.	Removals and Discontinuances.	PRIVATE LIGHTS.		PUBLIC LIGHTS.		
1855.			Added.	Total.	Streets.	Market Houses.	Squares.
To January 1st,	29638	15734	18127	200729	1820	50	85
January, - -	213	153	906	201635			
February, - -	170	135	981	202616	1		
March, - -	229	187	725	203341	14		
April, - -	281	225	1032	204373	4		
May, - - -	325	254	1222	205595	*719	18	
June, - - -	265	229	753	206348			
July, - - -	260	159	812	207160			
August, - -	404	215	1848	209008	3		
September, - -	465	290	3019	212027			
October, - -	582	334	2971	214998			
November, - -	503	276	2972	217970	38		
December, - -	†13782	†6028	†65246	†283216	†589	8	
Total, - -	17479	8485	82487		1368	26	
Brought down, -	29638	15734	18127		1820	50	85
Grand Total, -	47117	24219	100614	283216	3188	76	85

* Including all in Spring Garden.

† Including all in Moyamensing, Spring Garden, Penn and 23d and 24th Wards.

DATE.	Services Laid.	METERS SET.									PUBLIC LAMPS.		
1855.		3 light.	5 light.	10 light.	20 light.	30 light.	45 light.	60 light.	100 light.	150 light.	On Posts.	On Wall.	Market Houses
To January 1st,	14,013	7,023	4,011	2,139	570	144	67	22	36	1	1,580	241	50
January, -	56	22	10	10	8		1		1				
February, -	33	24	8	12	4	1	1		1				
March, - -	47	23	11	3	8	2					2	2	
April, - -	81	46	29	8	5		1	1			3	1	
May, - -	71	39	17	11	4	1			1		194		8
June, - -	32	12	6	7	4	1	1		1		693	2	18
July, - -	96	54	22	13	2		1	1					
August, - -	200	141	45	9	5		1		1			2	
September, -	184	116	35	15	9	2	2	1	1				
October, * -	5,332	2,652	2,431	150	61	10	9	6	11				
November, -	406	219	126	40	12	3					37		
December, † -	1572	942	418	91	28	8	11	2	6			7	
Total, - -	8,110	4,290	3,158	369	150	28	28	11	23		929	14	26
Brought down,	14,013	7,023	4,011	2,139	570	144	67	22	36	1	1,580	241	50
Grand Total, -	22,123	11,313	7,169	2,508	720	172	95	33	59	1	2,509	255	76

* Including all in Spring Garden and Penn.

† Including all set, previous to 1855, in the 23d and 24th Wards.

DATE.	MAIN PIPE LAID IN STREETS, LINEAL FEET.										
1855.	1½ inch	2 inch	3 inch	4 inch	6 inch	8 inch	10 inch	12 inch	16 inch	20 inch	TOTAL.
To January 1st, - -	426	114867	240142	154672	39217	26865	14324	13500	11183	14619	629765
January, - - -											
February, - - -											
March, - - -											
April, - - -											
May, - - -											
June, - - -											
July, - - -											
August, - - -		36	217	4662	45			2158			7118
September, - -			484	3402							3886
October, - - -		1615	9016	5482			1551	978		700	19337
November, - -		1620	2826	2727		8700				8161	14034
December,* - -			190415	157016	36333	18297	1600	5150		4158	407964
Total, - - -		3271	202958	173289	36378	16997	3151	8276		8014	452334
Brought down, - -	426	114867	240142	154672	39217	26865	14324	13500	11183	14619	629765
Grand Total, - -	426	118138	443100	327961	75595	43862	17475	21776	11183	22633	1082099

* Including all laid, previous to 1855, in Spring Garden, Penn, Moyamensing, 23d and 24th Wards.



REPAIRS OF SERVICES.

1855.	Stop Cocks Renewed.	New Covers for Stop Cock Boxes.	Services Renewed.	New Stop Cock Boxes.
January, - - -	7	5	4	3
February, - - -	7	2	4	2
March, - - - -	13	6	5	6
April, - - - -	17	13	4	45
May, - - - -	4	81	0	111
June, - - - -	14	20	5	126
July, - - - -	5	0	2	0
August, - - -	11	3	6	3
September, - - -	17	2	8	1
October, - - -	20	5	8	4
November, - - -	22	5	10	0
December, - - -	16	1	6	1
Totals,	153	93	62	302

STATEMENT OF GAS

Paid for in each month of the year, made in the First and Ninth Wards, being the Amount of Bills as per Meters, to the first of the month.

1855.	Feet of Gas Consumed at Private Houses.	Public Lamps.	DISTRICTS. Southwark.	Moyamensing.	West Philadelphia.	TOTAL.
Jan. - -	22,011,900		5,122,500	3,000,000	2,994,500	33,128,900
Feb. - -	24,407,400					24,407,400
Mar. - -	23,474,500	10,481,250				33,955,750
April -	20,038,400		4,818,000	2,698,100	3,056,800	30,611,300
May - -	17,786,800					17,786,800
June - -	17,903,100	12,903,950				30,807,050
July - -	12,177,600		3,643,500	1,864,200	1,993,800	19,679,100
Aug. - -	9,613,900					9,613,900
Sept. -	10,095,000	9,775,850				19,870,850
Oct. - -	10,446,900		3,619,000	1,889,100	1,943,000	17,848,000
Nov. - -	16,937,700					16,937,700
Dec. - -	23,349,200	13,414,900				36,764,100
Total,	208,242,400	46,575,950	17,203,000	9,401,400	9,988,100	291,410,850
Inventory of Stock of Gas delivered and on hand—					*Feet.*	
January 1st, 1856, - - -					64,144,865	
January 1st, 1855, - - -					61,754,800	
						2,390,065
						293,800,915

ANNUAL REGISTRY
OF CONSUMERS, AND PRIVATE AND PUBLIC LIGHTS.

DATE.				PRIVATE LIGHTS.		PUBLIC LIGHTS.			
To Dec. 31st.	Applications.	Removals and Discontinuances.	Total Number of Consumers.	Added.	Total.	Streets.	Market Houses.	Squares.	Total.
1836	301	24	277	2952	2952	165			165
1837	497	108	666	3862	6814	136			301
1838	849	174	1341	4288	11102	133		62	496
1839	946	300	1987	5380	16482	162	18		676
1840	788	382	2393	3317	19799	112	1		789
1841	874	493	2774	4387	24186	13	8		810
1842	845	541	3078	3054	27240	30			840
1843	986	635	3429	3418	30658	59			899
1844	1000	503	3926	4940	35598	195			1094
1845	1147	629	4444	5754	41352	112			1206
1846	1465	717	5192	8138	49490	96			1302
1847	1869	887	6174	12987	62477	84	10		1396
1848	1956	1002	7128	13935	76412	21			1417
1849	2191	1180	8139	18050	94462	74			1491
1850	2227	1150	9216	20542	115004	72	13		1576
1851	2529	1839	10406	21616	136620	124			1700
1852	3004	1747	11663	20550	157170	118			1818
1853	3280	1954	12989	25432	182602	87		23	1928
1854	2884	1969	13904	18127	200729	27			1955
1855	17479	8485	22898	82487	283216	1368	26		3349
Total.	47117	24219		283216		3188	76	85	

STATEMENT OF METERS SET EACH YEAR.

DATE.	Services Laid.	METERS SET.								
To December 31st.		3 light.	5 light.	10 light.	20 light.	30 light.	45 light.	60 light.	100 light.	150 light.
1836	251	108	98	31	9	2	3			
1837	411	301	77	19	6	2	3		3	
1838	690	442	159	61	13	9	2	1	3	
1839	649	421	118	75	26	6	3			
1840	350	198	78	54	13	3	2		2	
1841	375	203	93	63	14	2				
1842	299	157	76	57	6	3				
1843	348	180	110	50	7	1				
1844	503	292	129	72	5	3	1		1	
1845	523	311	151	49	7	4		1		
1846	761	390	237	113	14	4	2	1		
1847	999	481	300	202	12	1	3			
1848	971	408	333	196	25	4	3	1	1	
1849	1029	366	366	234	46	7	5	2	3	
1850	1079	435	412	165	50	8	3	3	3	
1851	1211	534	373	204	76	15	4	2	3	
1852	1261	638	334	200	60	18	7	3	1	
1853	1364	688	360	167	92	23	12	6	15	1
1854	98[illegible]	470	207	127	89	29	14	2	1	
1855	8110	4290	3158	369	150	28	28	11	23	
Totals,	22123	11313	7169	2508	720	172	95	33	59	1

LENGTH OF MAINS LAID IN STREETS EACH YEAR, IN LINEAL FEET.

DATE.	1½ inch.	2 inch.	3 inch.	4 inch.	6 inch.	8 inch.	10 inch.	12 inch.	16 inch.	20 inch.	TOTAL.
1836,		2310	15951	10184	4018		9140				41603
1837,		3468	13068	4302	6984						27822
1838,		150	15660	14409	9036		27	10881	2340		52503
1839,		1704	11629	11997	4419	3726					33475
1840,		222	1674	576	261						2733
1841,		204	8874	7137	27						16242
1842,		324	6831	3483	360	774					11772
1843,		966	32796	16767	1395	1053					52977
1844,		30696	38655	23555	2358	3663	891				99818
1845,	426	3240	9360	4725	837						18588
1846,		10734	9855	8442	378	2070					31479
1847,		4164	6660	2808	900	135					14667
1848,		1734	7578	3897	1458	477					15144
1849,		9690	9117	5724	2934	18284	4266	2619	8073	495	56202
1850,		6666	9513	6345	2718						25242
1851,		11901	18441	10755	720	324					42141
1852,		18864	19710	14958		1359				6867	61758
1853,		7152	3744	3780	414				720	7257	23067
1854,		678	1026	828							2532
1855,		3271	202958	173289	36378	16997	8151	8276		8014	452334
Totals,	426	118138	448100	327961	75595	48862	17475	21776	11133	22633	1092099

STATEMENT OF GAS DELIVERED TO PUBLIC AND PRIVATE LIGHTS TO DECEMBER 31, IN EACH YEAR, BY THE WORKS IN THE FIRST AND NINTH WARDS.

YEAR.	PUBLIC LIGHTS.	PRIVATE LIGHTS.	SPRING GARDEN.	SOUTHWARK	MOYAMENSING.	WEST PHILAD'A.	Used at Offices, Shops and Works, loss by leakage, etc.	MADE AT WORKS.
1836,	978,812	4,752,740					749,748	6,481,300
1837,	1,397,687	14,454,891					1,226,122	17,078,700
1838,	3,013,546	22,366,004					1,977,450	27,357,000
1839,	6,280,654	30,658,145					2,534,201	39,473,000
1840,	8,028,818	34,874,380					2,506,802	45,410,000
1841,	10,208,180	39,648,000					1,415,820	51,272,000
1842,	13,292,000	36,596,830					922,170	50,811,000
1843,	12,985,851	34,579,900					1,324,249	48,890,000
1844,	13,608,356	40,022,800					1,152,844	54,784,000
1845,	13,373,798	46,702,800					926,402	65,003,000
1846,	19,164,106	55,219,800	163,400				906,694	75,454,000
1847,	19,122,293	68,071,600	2,507,100				1,846,007	91,547,000
1848,	19,924,700	78,921,350	6,817,000				1,109,950	106,773,000
1849,	24,524,950	96,247,100	10,713,200	2,322,800	195,800		1,505,150	135,509,000
1850,	28,482,800	131,258,400	17,650,600	3,457,800	417,900		748,500	182,016,000
1851,	36,524,625	145,114,200	7,039,800	5,279,000	1,254,700		5,629,675	200,842,000
1852,	38,306,250	162,093,100		5,927,900	2,892,400	354,600	6,641,750	216,216,000
1853,	37,406,625	191,679,750		10,458,200	5,810,700	2,765,720	1,306,005	249,427,000
1854,	40,177,874	209,334,300		14,989,200	8,304,000	6,501,800	2,916,826	282,224,000
1855,	48,049,050	209,606,065		18,099,000	7,660,600	10,386,200	6,212,085	300,013,000
Total,								2,246,581,000
Statement of Gas delivered to public and private lights, from April 1st to Dec. 31st, 1855, by the works in the Fifteenth Ward, - - - - - - - - - - - - -							9,850,000	37,914,000



A COMPLETE LIST

OF THE

TRUSTEES OF THE PHILADELPHIA GAS WORKS,

FROM THE COMMENCEMENT,

IN THE ORDER OF THEIR APPOINTMENT.

Elections by Select Council, March 26th, 1835.

Benjamin W. Richards, John R. Latimer,	for one year.
A. D. Bache, W. H. Keating,	for two years.
J. P. Wetherill, H. M. Zollickoffer,	for three years.

Elections by Common Council.

John Farr, R. M. Huston,	for one year.
Frederick Fraley, Ephraim Haines,	for two years.
M. W. Baldwin, Thomas Cave,	for three years.

B. W. RICHARDS, *President.*
SAMUEL V. MERRICK, *Engineer.*
BENJAMIN MATTHIAS, *Secretary.*

B. W. Richards resigned the Presidency June 20th, 1835.

Dr. R. M. Huston elected President July 10th, 1835.

Dr. J. K. Mitchell elected July 9th, 1835, in place of B. W. Richards, resigned.

John Siter, elected January 28th, 1836, in place of J. K. Mitchell, resigned.

Benjamin Matthias, Secretary, resigned March, 1836.

Frederick Brown elected January 19th, 1837, in place of A. D. Bache.

Samuel V. Merrick, Engineer, resigned February, 1837.

Alexander Ferguson elected November 23d, 1837, in place of Ephraim Haines, deceased.

John Wiegand elected April 12th, 1838, in place of H. M. Zollikoffer, resigned.

A. D. Bache elected September 27th, 1838, in place of John Siter, resigned.

George Handy elected January 30th, 1839, in place of J. R. Latimer, resigned.

Thomas Cave elected President in place of Dr. R. M. Huston, resigned, June 28th, 1839.

Charles Gilpin elected January 14th, 1841, in place of W. H. Keating, deceased.

Thomas S. Smith elected January 28th, 1841, in place of M. W. Baldwin.

G. H. Burgin elected January 20th, 1842, in place of George Handy.

Isaac Myer elected January 20th, 1842, in place of R. M. Huston.

Samuel Norris elected January 19th, 1843, in place of Alexander Ferguson.

Isaac Barton elected January 18th, 1844, in place of Thomas S. Smith.

John C. Davis elected November 7th, 1844, in place of A. D. Bache, resigned.

Frederick Fraley elected President in place of Thomas Cave, deceased, March 28th, 1845.

Joseph S. Lovering elected April 10th, 1845, in place of Thomas Cave, deceased.

John Trucks elected June 19th, 1845, in place of Charles Gilpin, resigned.

Jacob P. Hagert elected January 29th, 1846, in place of Frederick Brown.

Frederick Brown elected March 25th, 1847, in place of John Farr, deceased.

M. W. Baldwin elected October 28th, 1847, in place of John Trucks, resigned.

John Agnew elected December 23d, 1847, in place of J. E. Hagert, resigned.

William Morris elected January 20th, 1848, in place of J. C. Davis.

John F. Gilpin elected January 20th, 1848, in place of G. H. Burgin.

G. H. Burgin elected April 6th, 1848, in place of J. S. Lovering, resigned.

John C. Davis elected April 13th, 1848, in place of W. Morris, resigned.

James Traquair elected January 18th, 1849, in place of Frederick Brown, resigned.

John Lindsay elected December 20th, 1849, in place of J. P. Wetherill, resigned.

Lewis Cooper elected December 20th, 1849, in place of J. C. Davis, resigned.

B. M. Feltwell elected January 31st, 1850, in place of Isaac Barton, resigned.

E. Y. Farquhar elected March 15th, 1850, in place of J. Lindsay, resigned.

John C. Davis elected October 24th, 1850, in place of E. Y. Farquhar, resigned.

Charles Lennig elected October 24th, 1850, in place of John Agnew, resigned.

Benjamin Gerhard elected January 30th, 1851, in place of Isaac Myer, resigned.

E. A. Souder elected January 29th, 1852, in place of M. W. Baldwin, resigned.

Samuel R. Brick elected January 25th, 1855, in place of E. A. Souder.

Wm. J. P. White elected January 25th, 1855, in place of Charles Lennig.

John Manuel elected January 25th, 1855, in place of Samuel Norris.

Wm. G. Flanagan elected January 25th, 1855, in place of Frederick Fraley.

Frederick Fraley elected August 2d, 1855, in place of John Wiegand, resigned.

Paul J. Field elected January 31st, 1856, in place of John C. Davis.

John M. Odenheimer elected January 31st, 1856, in place of Benjamin M. Feltwell.

BOARD OF TRUSTEES, 1856.

PRESIDENT.

DR. GEORGE H. BURGIN.

FREDERICK FRALEY,
JOHN F. GILPIN,
JAMES TRAQUAIR,
LEWIS COOPER,
BENJAMIN GERHARD,
SAMUEL R. BRICK,
WILLIAM J. P. WHITE,
JOHN MANUEL,
WILLIAM G. FLANAGAN,
PAUL J. FIELD,
JOHN M. ODENHEIMER.

ENGINEER.

JOHN C. CRESSON,
Appointed Aug. 26th, 1836.

CASHIER.

JOHN WIEGAND,
Appointed Aug. 1st, 1855.

REGISTER.

WILLIAM FENNELL,
Appointed May 31st, 1836.

TWENTY-SECOND

ANNUAL REPORT

OF THE

Trustees of the Philadelphia Gas Works,

TO THE

SELECT AND COMMON COUNCILS

OF THE

CITY OF PHILADELPHIA.

JANUARY, 1857.

PHILADELPHIA:
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BOARD OF TRUSTEES, 1857.

PRESIDENT.

DR. GEORGE H. BURGIN.

FREDERICK FRALEY,
LEWIS COOPER,
BENJAMIN GERHARD,
SAMUEL R. BRICK,
WILLIAM J. P. WHITE,
JOHN MANUEL,
PAUL J. FIELD,
JOHN M. ODENHEIMER,
G. W. BIDDLE,
ANTHONY MISKEY,
ANDREW C. CRAIG.

ENGINEER.

JOHN C. CRESSON,
Appointed Aug. 26th, 1836.

CASHIER.

JOHN WIEGAND,
Appointed Aug. 1st, 1855.

REGISTER.

WILLIAM FENNELL,
Appointed May 31st, 1836.

REPORT.

To the Select and Common Councils of the City of Philadelphia:

In conformity with the requisitions of the ordinance establishing the Philadelphia Gas Works, the Board of Trustees present this, their Twenty-second Annual Report, to the Select and Common Councils of the City of Philadelphia, on the department of Gas.

The Trustees have the pleasure to say, that the department of Gas is in a prosperous condition; the results of the past year have realized every reasonable expectation, and enabled the Trustees to meet promptly every engagement.

During the past year, there were no new constructions undertaken; those which were previously commenced, and in progress, have been completed. Among the most important of these, is the large gas-holder, immediately connected with the works at Point Breeze, in the First Ward. It was completed and brought into use, in the early part of the winter, and its efficiency has entirely realized the expectations of the Engineer and Trust. It is believed to be the largest structure of the kind, for the storage of gas, in the United States, being 160 feet in diameter and 90 feet high, and capable of holding one million eight hundred thousand cubic feet of gas. Since it has been brought into use, it has been subjected to the violence of several severe gales of wind, one of which was accompanied with a heavy fall of snow, without affecting in the least degree, its usefulness or steady action.

The experiment thus far with this gas-holder, has settled the question that structures of this character and dimensions, are more reliable for steadiness, and more economical, than similar structures of smaller dimensions.

To secure harmony and promptitude of action between the different works and offices belonging to the Trust, arrangements have been made to connect them by the magnetic telegraph, which will be completed in the course of a short time.

The total amount of gas made at the works belonging to the Trust, during the past year, was four hundred and thirty-four millions, seven hundred and forty-two thousand cubic feet.

Of this amount, there was produced at the works in the

First Ward, - - -	163,930,000
Ninth Ward, - - -	184,357,000
Fifteenth Ward, - -	86,455,000
Making a total of - -	434,742,000 cubic ft.

The greatest consumption of gas in twenty-four hours, was on the 31st of December last, when it amounted to 2,166,000 cubic feet.

There has been used for the production of gas in 1856, 44,468 tons of coal, 351,849 pounds of rosin, and 644 cords of wood.

The greatest number of retorts in use at one time, in all the works, was 356.

The number of meters and services set in 1856, was 2,323.

The total number of consumers registered on the books of the Trust, on the 1st instant, was 25,544.

The total number of public lights supplied with gas, on the 1st instant, made by the works under the Trust, including those supplied through the pipes of the Southwark and Moyamensing Gas Company, and the Germantown Gas Company, was 3,701

And the total number of private lights in use, and supplied by the works under the Trust, in the same manner, was 334,891

Making a total of - - - - - 338,592

The gas supplied under the Trust to the citizens in the Twenty-third Ward, is purchased of and supplied by the Northern Liberties Gas Company, at an annual loss to the Trust. This loss must continue until the consumption in that ward will warrant the expense of laying a main of sufficient capacity, from the works under the Trust, to supply that section of the City, or Councils shall sooner authorize the purchase of those works from which the present supply is obtained.

There were laid during the past year, 50,122 feet of street mains, making the entire length of mains belonging to the

Trust, 1,132,321 feet. The total amount of service pipe laid, is 391,136 feet; making 214.4 miles of mains, and 74 miles of services.

The funds provided for the extension of the works, mains, service-pipes and meters, are exhausted; it will therefore be necessary to decline receiving any new applications for gas, until Councils shall authorize the necessary means therefor. By the terms of the Trust, as well as by the spirit of the Consolidation Act, and Ordinances of Councils, the Trustees are not at liberty to contract obligations beyond the means provided for their payment. All further extension of mains and the supply of service pipes and meters must necessarily cease, unless the means shall be supplied by the applicants for gas, or by Councils.

The Trustees are thus explicit, in order that Councils may be timely advised of the necessity of making early provision to meet the wants of their fellow citizens.

The department of public lighting has necessarily occupied a large share of the attention of the Trust. It was a department of public business in which they had no experience, and under which they entered without any guide, but with an unwavering purpose to discharge faithfully every obligation to Councils and the public. This service, it will be recollected, was not solicited by the Trust; it was accepted at the instance of Councils, on the ground of public economy, as well as to have the City more efficiently lighted. Much labor and time were expended in organizing a system which would be effective. This object is accomplished, and there only remains to be completed the maps of the different wards, with the location of each public lamp.

It is believed by impartial judges, that this service has been faithfully performed by the Trust, and that the public lamps are in a state of efficiency, far superior in every respect, compared with the condition in which they were when the contract with the City was made.

The efforts of the Superintendent of Distribution, who, with other duties, has charge of this department, are untiring to have this branch of the public service all that can be desired.

The total number of public lamps on the 1st instant, which are lighted under the contract, was 5,574; of these, 877 are fluid lamps, and the remainder gas lamps. To light, extinguish,

cleanse and repair these lamps, requires the constant services of a large number of persons. Among so many employees, occasional omissions of duty will occur; every precaution, however, has been taken, both to prevent and detect any neglect of duty. The public are daily advised that in addition to the principal office, other offices have been opened in different sections of the City, for the purpose of receiving information from the citizens, respecting any neglect of the public lamps.

With regard to the economy of the system under the contract, the only means which the Trustees possess of forming a just estimate is from the official report of the Controller, made to Councils, January 16, 1856; the amount reported as the expenses for lighting the City in 1855, is $286,625 25. By the ordinance of Councils, approved February 16, 1856, under which the contract between the Trustees and the City was made, the entire sum appropriated for this whole service for the year 1856, was $225,000; and this amount, after meeting every engagement for the entire year left a balance to the credit of the appropriation of several thousand dollars.

The average quantity of gas consumed monthly by each lamp, was fully 1,800 feet, or 21,600 feet per annum, as ascertained by the lamp meters, from July 1, to December 31, 1856. The burners used on the public lamps, average full six feet per hour, which gives 3,600 hours of actual lighting for the year 1856.

The subject of negotiating with the several Gas Companies referred to in the ordinance of March 20th, 1855, has occupied the attention of the Trust during the past year. It has recently been presented to Councils by the Committees on Gas of the Select and Common Councils, and is now before your honorable bodies for consideration and definite action.

Should Councils in their wisdom decide upon the purchase of those works, and place them under the management of the Trustees, it is indispensible that sufficient means should be provided for their enlargement, for the extension of the mains, service pipes and meters. Without such means, the Trustees will not be authorized to assume their management, and reduce the price of gas to that at present charged by the Trust to private consumers.

The attention of Councils is again invited to the importance of providing residences for the workmen employed at the works in the First Ward. It was with extraordinary labor and expense that a road was opened to these works after the recent snow storm, and a large proportion of the workmen, owing to the want of dwellings near the works, were subjected to much toil and suffering in reaching them. Convenient and respectable residences can be furnished on the ground belonging to the Trust, and at a rent which will be within the reach of any ordinary workman, and the rent can be secured out of their monthly pay.

The Trustees are happy to say, that notwithstanding the very large engagements contracted during the past year by the Trust, they were all promptly met as they matured.

By the operation of the Sinking Fund, and investments of the Contingent Fund, one-half of the entire cost of all the works under the management of the Trust, is virtually discharged. This has been effected without burdening the citizens with one cent additional tax, and at the same time they have been supplied with gas of a superior quality, and at a lower price than is furnished by any other works in any of our Atlantic cities.

The founders of the Philadelphia Gas Works proposed to build up a gas establishment, which, at moderate prices, for its products, and a well-devised system of finance, should pay for its entire cost, without adding to the burden of taxes, and ultimately become the heritage of the citizens, and the profits therefrom applied to lessen the tax for public lighting. All this will be accomplished, if the system so well devised and skillfully prosecuted, shall be in the future as faithfully adhered to.

For a more full and detailed condition of the works and finances, Councils are respectfully referred to the reports of the Engineer and Cashier, made to the Board of Trustees by those officers, of their respective departments, and which are herewith submitted. By order of the Trustees,

GEO. H. BURGIN, *President.*

WILLIAM FENNELL, *Register.*

OFFICE PHILADELPHIA GAS WORKS,
January 23d, 1857.

ENGINEER'S REPORT.

TO THE TRUSTEES OF THE PHILADELPHIA GAS WORKS:

Gentlemen—In compliance with the requisition of the By-Laws of the Board, the Engineer presents his Twenty-first Annual Report of the operations and state of the works.

The several factories belonging to the Trust, have produced in the year 1856, four hundred and thirty-four million seven hundred and forty-two thousand cubic feet of gas; of which 163,930,000 cubic feet were made at the works in First Ward; 184,357,000 in Ninth Ward, and 86,455,000 in Fifteenth Ward.

The whole quantity that has been made under the Trust, from its commencement, is over twenty-seven hundred million cubic feet, or in exact figures 2,729,021,000.

The largest quantity used in twenty-four hours, was 2,166,000 cubic feet, on the last night of the year, and the largest daily product of the several works has been 799,000 in First Ward; 1,084,000 in Ninth Ward, and 440,000 in Fifteenth Ward.

These maximum daily productions did not occur simultaneously, and therefore their aggregate amount was not produced on any one day, it having been found most convenient to manage the different factories in such way, that one might be in full working, when the yield of another had fallen off by reason of the wear of its retorts.

The materials used in making gas in the several factories, are as shown in the annexed tabular statements:

	1st Ward. Tons.	9th Ward. Tons.	15th Ward. Tons.	Total. Tons.
Coal in store January 1st, 1856,	3,792	7,500	113	11,405
" bought in 1856,	24,028	27,822	9,294	61,144
	27,820	35,322	9,407	72,549
Coe	16,372	19,034	9,062	44,468
	11,448	16,288	345	28,081
	27,820	35,322	9,407	72,549

	1st Ward. Bush.	9th Ward. Bush.	15th Ward. Bush.	Total. Bush.
Coke on hand January 1st, 1856, -	6.500	34,600	6.900	48,000
" made in 1856, - -	563,563	680.444	324,817	1,568,824
	570,063	715,044	331,717	1,616,824
" used under retorts in 1856, -	228.307	381.169	202.037	811.513
" " in office, yards, &c., -	62,403	10.169	4,500	77,072
" sold, - - - -	99,353	318.706	100,180	518,239
" stock on hand January 1st, 1857,	180,000	5,000	25.000	210,000
	570,063	715,044	331,717	1 616,824

There has also been used 351,849 pounds of rosin, and 644 cords wood, and 132,173 bushels of lime in purifiers.

The maximum number of retorts continuously in use at the works in First Ward, was 126; in Ninth Ward, 240; and in the Fifteenth ward, 97. The average being, in the First Ward, 78½; in the Ninth Ward, 112½; and in the Fifteenth Ward, $53\frac{5}{12}$. The greatest number at work at any one time, in all these works, being 356.

The largest daily average yield of each retort in the year was

7,194 feet at the works in First Ward.
5,382 " " " Ninth Ward.
5,150 " " " Fifteenth Ward.

The largest quantity from each pound of coal respectively, made for any full day's work,

$4\frac{92}{100}$ feet at the works in First Ward.
$4\frac{65}{100}$ " " " Ninth Ward.
$4\frac{64}{100}$ " " " Fifteenth Ward.

The number of meters and service pipes put in at new places, has been,

In the wards comprising the Old City, - - -	843
" " " Spring Garden and Penn,	1,076
" " " Moyamensing, - -	244
" Twenty-third Ward, - - - -	44
" Twenty-fourth Ward, - - - -	116
	2,323

Making a total of meters and services set in 1856, twenty-three hundred and twenty-three; and the whole number now in use, twenty-four thousand four hundred and forty-six.

The number of applications registered during the year, has been,

In the Old City, including Moyamensing,	3,846
In Spring Garden and Penn,	2,626
In Twenty-third Ward,	414
In Twenty-fourth Ward,	254
In all,	7,140

Deducting from these, the removals and discontinuances, amounting to 4,494, and adding the number of previous consumers, shows the whole number of gas consumers, at the present time on the books of the Trust, to be 25,544.

The lights added during the year, are as follows:

Old City,	13,475
Spring Garden and Penn,	14,673
Moyamensing,	1,809
Twenty-fourth Ward,	295
Previously in use,*	283,216
	313,468

The public lamps now in use, amount in all the wards supplied from these works, to 3,701, adding these to 280,756 private lights previously supplied, and also 18,282 private lights supplied through the pipes of the Southwark Gas Company, and 5,601 private lights supplied the Germantown Gas Company, makes the aggregate of 338,592 lights receiving gas from these works.

In the Twenty-third ward, there are 2,460 private and 55 public lights supplied with gas from the Northern Liberties Gas Company.

The length of street mains laid during the year, has been 50,122 feet, and the entire length of mains belonging to the Trust, is 1,132,221 feet. The aggregate length of service pipe is 391,136 feet, making $214\frac{4}{5}$ miles of mains, and 74 miles of services.

The extension of the pipes, and consequent increased consumption of gas in some of the northern wards, within a few

' so great, as to create some difficulty in distribut-

* ses in Twenty-third Ward which are on the books of the Trust, Northern Liberties Gas Company.

ing a proper supply, in consequence of the insufficient capacity of many of the old mains of the Spring Garden works. In order to remove this defect of supply, a main of larger size than those before laid should be carried eastward from the 20 inch main, recently laid in Broad street, so as to intersect all the pipes lying north and south, as far east as Sixth street. For this purpose, an outlet, 10 inches in diameter, was placed on the Broad street main, at the north end of the 20 inch pipe; with which a suitable connexion can be made, and the defect of pressure now felt in the Fourteenth, Fifteenth and Twentieth Wards, be thus removed.

Until further provision be made by law for the extension of main pipes and services, all new work in this department will have of necessity to be postponed, unless the Board shall adopt the course pursued on a former occasion, of allowing such work to be done when the applicants agree to pay the entire cost of the work and fixtures.

At the several manufacturing stations no new constructions have been undertaken in the past year; the improvements completed being only those that had been previously commenced.

Of these, the most important is the large gas-holder, No. 12, which was so far completed in the autumn as to be in good working condition. It was put in operation early in the winter, and has continued to work with great steadiness and regularity.

Its efficiency as a great reservoir and regulator of pressure, during the hours of maximum consumption, has fully equalled every expectation. Its advantages in these respects cannot easily be over-estimated, and by its steady action during several violent gales of wind, it proves that a gas-holder of very large dimensions is much more dependable than those that are smaller.* Notwithstanding the unexpected obstacles encountered in the construction of this gas-holder and tank, by reason of the difficult character of the foundations and casu-

* Since the presentation of this report to the Trustees, the occurrence of the great snow storm, of January 18th, accompanied by a gale of unusual violence, has afforded another opportunity for testing the stability of this gas-holder. At the time of the storm it was raised more than forty feet high, containing over 800,000 cubic feet of gas, and showed not the slightest symptom of unsteadiness or excessive strain.

alties of the weather, it is worthy of note, that its cost per cubic foot, of capacity, is much less than that of any other gas-holder ever built at these works, with the exception only of No. 11, which being also of unusually large size, was constructed at less cost per cubic foot than any other, of which I have any knowledge, in the United States.

Had the unlooked for difficulties alluded to, not occurred, the relative cost of No. 12 would have been below that of No. 11, and it may now be esteemed an established truth, that in all large works economy is promoted by the use of gas-holders of very large dimensions. As it is believed that two gas-holders of as large capacity as these, are not to be found at any other Gas Works, the present may be considered a suitable occasion for a brief description of them.

No. 11 was built in 1850, and has been in almost constant use since that year. It is of telescopic plan, 140 feet in diameter and 70 feet high, containing one million cubic feet.

Gas-holder No. 12 was put in operation early in December last; it is like the other, telescopic in form, 160 feet in diameter and 90 feet high, containing one million eight hundred thousand cubic feet. The tank is 162 feet in clear diameter, and 46 feet deep, excavated in gravel and clay, with a central mound 25 feet high.

When the excavation for this tank had been sunk nearly to the depth required for the foundation and floor, the substratum of stiff clay was forced upward by the pressure of water beneath, revealing a quicksand that existed about 55 feet below the top level of the tank, which had not been detected by borings previously made to a depth of more than 50 feet, for the purpose of proving the nature of the ground. This unwelcome discovery made it necessary, for the proper security of the foundations, to adopt some expedient for reaching a firm bed of gravel, which was found to lie about 70 feet from the surface. The great influx of water at this depth, of more than 40 feet below tide, forbade any other mode of reaching this solid bottom than by driving piles. Some thousands were driven in such positions as would allow the tank walls, the guide towers and the floor, to rest on heavy timbers secured by bolting to the piles after the latter had been driven home in the solid gravel below.

These timbers are laid close together, radiating from the central mound to the outer circumference of the foundation walls; their joints were tightly caulked, and the whole covered with a bed of hydraulic concrete. The tank walls are of ruble masonry, built in two separate rings, the outer one, four feet thick, laid in gravel mortar; the inner one, eighteen inches thick, laid in hydraulic cement, with an interstice of six inches filled in with hydraulic concrete. To increase the tightness of the bottom, it is covered by a dome-shaped pavement of brick, grouted with hydraulic cement. An annular wall of stone is built within the tank, midway between the outer wall and the centre. Upon this are placed 24 tressel frames, 35 feet high, which sustain the crown of the gas-holder, so as to prevent the swag of the sheets when unsupported by the gas. No rafters are used, nor any interior frame work, except a series of tie-rods, which are secured to the crown sheets in such way as to distribute over its entire area the weight of the centre post and the vertical sides.

This arrangement was adopted in consequence of the great weight required to give the holder such pressure as would control all the others connected with the several works, all of which are more than three miles distant, and some two and three times more remote.

To facilitate the future increase of its pressure, the legs on which the inner section stands, and against which the outer section is guided, are made of cast-iron, and hollow, for receiving the additional weights that may hereafter be required.

To support and guide the gas-holder, there are twelve towers of cast-iron, ninety-five feet high, standing on stone bases; their form is pentagonal, about twelve feet in diameter. The girders connecting the towers are in the form of a heavy balustrade, with open quatrefoil panels, and are placed fifteen feet below the summits of the towers.

The weight of metal in the whole structure is over one thousand tons. That of the gas-holder alone about three hundred tons.

To those who are not familiar with the properties of gases, it may appear incredible that a vast structure, weighing over 600,000 pounds, can be sustained with safety, resting solely upon

a fluid so light and subtle as illuminating gas; whose density is less than half that of atmospheric air, or only one sixteen-hundredth part the weight of water. But the great diameter of this machine gives it an area of 20,000 square feet, and the whole pressure due to its weight is only 30 pounds on the square foot, equal to a column of water not quite six inches high.

It is therefore raised with the greatest ease by the inflowing gas; by which it can be lifted out of the water of the tank, to a height of ninety feet, and as the gas is consumed or passed into the other holders, it is gently lowered, with the silent, steady motion of a great pneumatic press.

Another structure which has been completed during the past year, is the hydraulic elevator, used for raising coals from the wharf, into the coal stores recently constructed at the First Ward works.

The construction and operation of this machine are of extreme simplicity. Two rectangular water-tight boxes, made of boiler iron, capable of holding about 1½ tons of water, each, are suspended to the ends of a strong chain that passes over a wheel placed at the top of the hoisting tower. The length of the chain is such, that one box is level with the railroad track on the wharf, when the other is level with a similar track leading into the attic of the coal stores; a short section of rail track on top of each box is adjusted to fit these main tracks when the boxes are in place.

A loaded car being run onto the lower box, and a light car on the upper one, water is allowed to flow into the latter, from a cistern, until its weight preponderates, when it descends and raises the loaded car, its velocity being regulated by means of a powerful friction brake, which is worked by an attendant, who likewise works the valves for supplying the water.

When the descending car reaches the bottom of the tower, a self-acting valve opens and allows its load of water to escape.

After the coals have been delivered from the vessel at the wharf, into an iron car, placed on a railway laid along the water's
[illegible] need no further handling, being drawn by a mule to
[illegible] the elevator, by which they are hoisted 60 feet,
[illegible] to the attic of the coal stores, when they

are dropped from the car, at a height which allows the pile to trim itself to the slope of the roof; thus filling up the store more completely than could be done by any other mode, and saving more than three-fourths the expense of storing in the usual way. As the two coal stores now erected are capable of holding only about one-half the coal required for the winter's supply, it will be a measure of good economy to build two more in the present year; whereby the saving of expense in handling and hauling may be gained upon the whole quantity used, and the coals be more perfectly protected from damage, than they can be in temporary sheds.

In constructing the retort benches at the First Ward station, provision was made for their adaptation to various different plans of setting the retorts in the fire arches, without disturbing the permanent masonry. The superior facilities for making comparative trials of different plans thus secured, have not been without their proper fruits.

The Assistant Engineer, under whose immediate direction the works at this station are placed, has introduced a new plan of setting in an open arch, disencumbered of the usual complex arrangement of flues, from which he has produced results much more economical than any heretofore obtained at the older works. The daily yield when the beds are new and in good condition, has been over 8,000 cubic feet of gas from each retort, or about 25,000 from a bed of three. The average yield, during the operations of an entire season, has been nearly 7,000 feet a day from each retort, or 20,000 feet from the bed of three.

The contrast of results derivable from different modes of setting the retorts, is exhibited very clearly in a trial made at the request of a Trustee, of another plan of setting, used in a neighboring City. In order to ensure the utmost fairness and accuracy of the comparison, the retorts used were of the same pattern, exactly alike in all respects. The beds in which they were placed, were immediately contiguous in the same section of retort bench, and were worked by the same gang of stokers, using the same kinds of coal and fuel. The trial was continued many months, and until the retorts were used up, so far as practical economy of use would permit. The contrast is remarkable and instructive. When the new setting was first

put at work, with the flue dampers adjusted according to instructions given by its suggestor, the daily yield was about 3,700 feet to the retort, or 11,000 to the bed of three retorts. By a different adjustment, found upon experiment to produce the best results obtainable, the yield was increased to 4,300 feet per day from each retort, or about 13,000 feet from each bed of three. This was the utmost they could be made to yield, without endangering the destruction of the bed by melting down the furnace.

As these results speak for themselves, they require but brief comment. The cost for retorts, for retort-house room, and for labor of working, is the same in both the plans of setting; the daily product in one case exceeds [redacted] in the other by one-half.

The setting in open arches, when fully introduced, will much increase the capacity and profitable results of our works; the other would take largely from us in both these respects. The practical difference between the adoption of the one or the other, in its money value, on our present scale of operations, would amount annually to the interest on a capital of more than half a million of dollars.

By the results of these experiments, which have been continued through a term of many months, I feel warranted in reiterating the opinion expressed last year, that whenever the contemplated transfer of the entire manufacturing operations of the works to the First Ward station shall take place, the advantages arising from the improved arrangements there in use, will be sufficient to pay a large interest on the cost of the removal.

Another year's trial of the cellular retort, for the production of gas from vegetable substances, has confirmed the results heretofore reported, with respect to the quantity and illuminating quality of the gas thus obtained. As there seemed to be some doubt as to the permanency of this gas, it was thought worth while to test it in such way as would bring the question to a satisfactory solution.

A considerable quantity of it (30,000 cubic feet) was stored in a gas-holder by itself, and after remaining thus isolated several weeks, was tested photometrically. It had not changed perceptibly, having retained its illuminating power as completely as coal gas under similar trial.

With the present relative prices of wood and coal in the Philadelphia market, the cost of making gas from the former is somewhat the lower, but the difference is not sufficient to justify the immediate abandonment of the latter. Should a commercial change occur, by which the price of coals should be again advanced to the high point reached two or three years ago, there might arise important advantages to these works and its customers, from the ability to make the substitution of wood for coal.

It will therefore be consistent with good policy to continue, as heretofore, the use of such number of wood retorts, as can be supplied with that material, without sensibly affecting its market price, particularly as their use is accompanied by some immediate profit and entails no extra cost for the contingent advantages it presents.

A very careful and accurate analysis and photometric examination of wood gas have been made by two eminent analytical chemists, (Dr. Wolcott Gibbs, of New York, and Dr. F. A. Genth, of Philadelphia,) whose report of their chemical results furnishes a highly satisfactory explanation of certain curious phenomena that accompany the combustion of this gas.

They examined two varieties of gas, one made from old field pine, the other from small second growth oak, with the following results:

	Gas from Pine.	Gas from Oak.
Specific gravity,	0.663	0.580
Composition.		
Hydrogen,	32.71	30.44
Light Carb. Hydrogen,	21.50	33.12
Olef. Gas and Hydro Carbon Vapors,	10.57	6.46
Carbonic Oxide,	27.11	26.11
Carbonic Acid,	4.90	0.48
Oxygen,	0.66	None.
Nitrogen,	2.55	3.39
	100.00	100.00

These gases were collected at the Ninth Ward Works, and taken to New York for analysis. Their illuminating power was tested and found to be over 26 candles for a five feet burner.

A subsequent series of photometric trials of wood gas, previously passed through a long pipe exposed to a temperature of 15° F., gave an average of 18.3 candles from a burner consuming 4 $\frac{5}{10}$ ft. per hour.

The conclusion at which these gentlemen arrive from their elaborate examination is, "that wood gas, in illuminating power, is fully equal to the average of coal gas."

It affords me much gratification to be able to report, with much commendation, upon the working of the new department, recently organized, for the superintendence of the general distribution and the public lighting. Its early operation was embarrassed by the want of proper plans and records, for showing the number and position of the mains and lamps, in many of the wards outside of the old city limits. The remedy for these deficiencies was promptly taken in hand, and the matured system heretofore in use within those limits will soon be extended over the whole.

The defects, last year reported as the cause of so much waste of gas by leakage in certain northern wards, have been to some extent repaired; and the difference in the loss account gives proof of the good effects produced; but there still remains much more to be done in this respect.

For these excellent results, much is due to the intelligent and assiduous labors of the Superintendent, Mr. Wm. G. Flanagan, whose whole attention is devoted to the responsible duties of the office, with a zeal and faithfulness worthy of high praise.

Early in the summer, the connection that had been authorized last winter with the pipes of the Germantown Gas Works, was completed; and for some months the supply to the Twenty-second Ward has been drawn from the City Works.

To prevent the inconvenience that might arise from the length of the conduit, and the large number of intermediate consumers, the distance to the farthest off customer being nearly ten miles, it was thought advisable to arrange the supply so that the gas-holder at the Germantown Works should be filled by day, and the connection with the City Works be shut off during the hours of active lighting. By this procedure, the pressure in the Twenty-Second Ward is the same as if the gas was made at their local works. The quantity supplied is about 28,000

cubic feet daily, as registered by a station meter placed near the south line of the Ward.

The growing magnitude of the operations, at the different offices and works managed under the gas trust, and their constant mutual dependence, have created a necessity for frequent intercommunication of intelligence, and official directions, such as can be most perfectly obtained, only by means of the magnetic telegraph. No time, therefore, has been lost in carrying into effect the recent directions of the Board upon this subject; and the contractor is moving so promptly, that the line will very soon be in readiness for use.

Of the advantages to be derived from this, it is not easy to form in advance anything like an adequate estimate. In the management and control of the numerous gas-holders, many miles apart, but in close mechanical connexion, it will add greatly to their security. In the regulation of the street main pressure, at various points during the hours of lighting, it will prevent the inconveniences that now so frequently result from the want of prompt information at the Works. In regulating the lighting and extinguishing of the public lamps, in giving a knowledge of the exact locality of fires, and in a vast number of other matters, it will be truly of inestimable value.

No action having yet been taken for providing convenient residences for the workmen employed at the Works in the First Ward, the duty is again imposed of reporting it as a cause of much hardship to them, and no little disadvantage to the Works.

A succinct view of the principal statistics of the affairs of the Trust will be found in the appended tabular statements.

Respectfully,

JOHN C. CRESSON, *Engineer.*

Philadelphia City Gas Works,
January, 1857.

REPORT OF THE CASHIER.

TO THE TRUSTEES OF THE PHILADELPHIA GAS WORKS:

Gentlemen:—I have the honor to report to you the condition of the finances of the Trustees as they stood on the first of January, 1857. In doing so, I have the pleasure to say that they present a very satisfactory exhibit of the condition of the Trust.

It will be seen, by reference to the accounts herewith submitted, that the entire capital invested in the Philadelphia Gas Works, on the first of the present month, was $2,615,774 35

Of this amount there was derived from Loans authorized for that purpose, - -	1,776,200 00
From investments of the Contingent Fund, &c.,	389,574 35
From the works taken from the City under the Ordinance of Councils, approved March 20, 1855,	450,000 00
	$2,615,774 35

The investments in the Sinking Fund, up to the 1st instant, consisting of Gas Loans and Loans of the City, amounted to - - -	$705,441 63
Amount invested under Ordinance of March 20, 1855, - - - - -	18,900 00
Appropriation and interest due to Sinking Fund, the 1st instant, - - - -	91,849 07
Amount of Contingent Fund invested in Works, January, 1, 1856, - - - -	336,272 69
Amount of Contingent Fund, invested during the past year, and belonging to and placed to the credit of that Fund, January 1, 1857,	42,204 93
Making a total of - - -	$1,194,668 32

It will thus be seen at a glance, that nearly one-half of the entire debt or cost of all the works, under the management of the Trust, is virtually paid. Could the investments in the Sinking Fund be disposed of at par, the first six loans could, with the consent of the holders, be immediately paid in full.

The Sinking Fund has accumulated faster than the obligations of the Trust require. The first loan will not be due until 1861, when the Sinking Fund must and will be sufficient to pay in full the first eight loans.

Our engagements for coal and other materials used exclusively in the manufacture of gas, including also wages of every description, repairs, public lighting and incidental expenses, amounted during the past year to $674,994 94. To meet such engagements profitably, the working capital should at least be $250,000.

During the past year, especially, cash could at all times command much more advantageous terms than the most undoubted credit. It is not only desirable, therefore, but indispensable, for the successful and economical working of our system, that we should have a working capital adequate for all our wants.

It is recommended that the accumulations of the Contingent Fund, which heretofore have been applied to the extension of the works and mains, shall be in future employed as working capital, until a sufficient amount for that purpose is secured.

The temporary loans on the first of January, 1856, amounted to $141,449 31. On the first of January, 1857, they amounted to $43,711 15—showing a reduction in this item of $97,738 16.

The balance of Loan 9th will all be absorbed by the engagements of the Trust. It will be necessary, therefore, to decline laying any additional mains or receiving any new applications for gas until the necessary provision shall be made therefor. This is a subject which claims the immediate attention of the Trustees, and through them the City Councils, in order that early and proper measures may be adopted for supplying the citizens with gas.

As the station meters for measuring the supply of gas furnished to the late districts of Moyamensing and West Philadelphia, were removed for the purpose of affording an increased

supply of gas to the citizens residing in those portions of the City, the receipts for gas from those districts were consequently placed directly to the credit of the works in the First and Ninth Wards, which furnished the gas.

The total receipts from gas, for private and public lighting, and for other products furnished by all the works during the year 1856, were $932,091 31.

The receipts from gas for private consumption furnished by the works of the Fifteenth Ward, during the last year, exceed those of the same period in 1855, twenty-five per cent.

The quantity of gas sold during the past year, which was furnished by these works, is twelve per cent. less than the amount made, as recorded by the station meter of the works. This is an improvement on the consumption of 1855, and is doubtless owing to the fact, that during the past year, some of the defects in the old lines of mains in the Fifteenth Ward were corrected.

The department of public lighting has occupied a large share of attention during the past year. The service was entirely novel—we had no experience or guide to direct us. A system was to be devised, and carefully watched and perfected. This has been in a great degree accomplished. Maps of the different wards are in process of preparation, which will exhibit the location of each public lamp. When these maps are finished, and the lamps numbered and registered, the department of lighting will be completed.

This department, notwithstanding its novelty and the difficulties attending its organization, has fully met the expectations which were entertained when the contract for that branch of the public service was made with the City. It is believed, too, by impartial judges, that the service has been faithfully performed. The lamps are kept in good repair, lighted, extinguished and cleansed, but with rare exceptions, in strict conformity with the contract.

The purpose and aim of the Superintendent of Distribution, (who, with other duties, is charged with the care of the public lamps) is to have that branch of the public service perfect. And it is but simple justice to him to say that his efforts to this end are unremitting.

There are a large number of persons employed in lighting, extinguishing, cleaning and repairing the public lamps, and among so many employees occasional omissions of duty will occur. Every precaution, however, has been taken by the Superintendent of Distribution, both to prevent and detect any neglect of duty. Offices have been opened in different sections of the City for the purpose of receiving information from the citizens respecting any neglect on the part of those charged with the repairing, cleaning, lighting and extinguishing of the public lamps.

The average consumption of gas for each public lamp from July 1, 1856, to December 31, 1856, is found, by actual registry of meters attached to a number of the lamps, to be full 1,800 cubic feet per month, equal to 21,600 feet per annum. The burners average six feet per hour, which of course gives 3,600 hours of actual lighting for each lamp during the year.

The prices which are paid for gas to the various Gas Companies, which supply about one-third of the whole number of the public gas lamps in use, causes the whole of the gas used for public lighting to cost the Trust twenty-five per cent. more than it would if the whole of the gas used for this department could be supplied by the works belonging to the Trust.

There can be no doubt that the present system of public lighting is one of economy to the City, as compared with the expenditures of former years for this branch of public service.

In the annual report of the Controller made to Councils, January 16, 1856, of the expenditures of the various departments for the year 1855, the amount reported as the expenses for lighting the City in 1855, is $286,625 25, while the amount appropriated for the same service in 1856, was $225,000, which, after paying the entire cost of lighting, extinguishing, cleaning and repairing the public lamps, left a balance of some $3,000 to the credit of the appropriation.

From the most reliable sources, it is ascertained that the Boston Gas Light Company receive from the City of Boston one cent. per hour for the gas consumed in each public lamp, averaging five feet of gas per hour, and one cent $\frac{43}{100}$ for lighting, cleaning and extinguishing each lamp per night. The repairs are done at the cost of the City.

If the number of hours of lighting time, and the amount of gas consumed by each public lamp in Boston, be made equal to that which is given by the Trustees to the City of Philadelphia, each public lamp, exclusive of repairs, would cost the City of Boston $47\frac{71}{100}$ annually.

The Manhattan Gas Company of New York receive from that City $25 00 per annum for each public lamp, estimated to burn 3,833 hours per year. This sum includes gas, lighting, extinguishing and cleaning. All the repairs are made at the cost of the City.

The New York Gas Light Company of New York receive from that City $25 78$\frac{3}{4}$ for each public lamp, annually estimated to burn 3,833 hours per year. The service rendered by this Company is similar to that rendered by the Manhattan Gas Company.

The Gas Light Company of Baltimore receive from the City of Baltimore $22 50 per annum for gas for each public lamp, estimated to burn 2,300 hours per year. The City of Baltimore pays all expenses for lighting, extinguishing, cleaning and repairing.

We are not informed what is the average quantity of gas consumed by each lamp per annum, which the three last named Companies supply, but taking the prices received by the Manhattan Gas Company and the New York Gas Light Company, and adding repairs, &c., the difference between the actual cost to the City of New York and the actual cost to the City of Philadelphia for public lighting per lamp respectively, cannot be material.

The Gas Light Company of Baltimore estimate 2,300 hours as their time of lighting each public lamp per annum, for which the City of Baltimore pays them $22\frac{50}{100}$; by making the Baltimore time equivalent to that of Philadelphia, and add the expenses of lighting, extinguishing, cleaning and repairing, and the result will exceed $43 00 per annum as the cost of each public lamp.

There is another fact which ought not to be overlooked—it is this: the Boston and New York Gas Companies are each receiving $2\frac{50}{100}$ per thousand cubic feet for gas for private

lighting, and the Baltimore Gas Light Company receives $3 00 for the same quantity. They are all private Companies.

Could the Trust have received $2 50 per thousand cubic feet for all the gas made at their works during the year 1856, the whole of the public lighting could have been performed by the Trustees for nearly one-half of the price which they received for it.

This is the true aspect in which this subject is to be examined, and it will be patent to every candid mind, that comparing the prices received by the Trust for private and public lighting, with the prices received for the same objects by other Gas Works, that the citizens of Philadelphia receive their public lighting at a much lower rate than any other of the Atlantic Cities of the Union.

Beside, it should not be forgotten, that if any profit should perchance accrue to the Trust by the performance of this service, the whole benefit inures to the citizens—it is their property.

There is another fact, too, which ought not to be lost sight of —that the Trust sustained a loss of over $7,000 during the past year by discounts on warrants on the City Treasurer received in payment for public lighting.

Complaints have been and are made of the want of sufficient light from the public lamps in those portions of the City which are supplied with gas by the Southwark and Moyamensing Gas Company, and by the Germantown Gas Company. This is owing to want of sufficient pressure, which is felt in the early part of the evening, when the private and public consumption is general. As soon as the private consumption declines there is an abundance of gas for the remainder of the night for public lighting.

This evil will no doubt continue until Councils shall take some definite action with regard to the purchase of those works. The public lamps in which "burning fluid" is used for lighting, have been the cause of much labor and anxiety to the department, not only on account of the comparatively feeble light which they afford, but in repeated instances the public have been deprived even of that by evil disposed persons, who have taken the lamp with its contents from the lantern, thus subjecting the

public to greater inconveniences, the department to blame, and the Trust to a loss.

Every effort has been made and will continue to be made to render these "fluid lamps" as efficient as the nature of the material used for lighting will admit.

The fluid is furnished by contract by responsible parties, who have honorably met all their engagements, and deserve the approbation they receive, and the conduct of the contractors for ordinary repairs, equally merits the commendation of the Trust.

The total number of public lamps, January 1, 1857, lighted under the contract with Councils, was 5,550. Of these, 877 are "fluid lamps," and the remainder 4,673 are "gas lamps." Of these "gas lamps," 835 are supplied with gas furnished by the Northern Liberties Gas Company; 161 are furnished with gas supplied by the Germantown Gas Company; 265 are furnished with gas supplied by the Southwark and Moyamensing Gas Company; 63 are furnished with gas supplied by the Manayunk Gas Company, and the remainder, 3,349, are directly supplied with gas from the works under the Trust.

The subject of purchasing the Gas Works, as provided for in the Ordinance of March 20th, 1855, has occupied the attention, jointly, of the Engineer and Cashier, and such information furnished to the Board of Trustees and the Committees on Gas of the Select and Common Councils, as is believed will enable all to act intelligently and justly. As the Committees on Gas have recently brought this subject before Councils for definite action, it is important that Councils should understand that in the event of their authorizing the Trustees to purchase the Gas Works referred to, it is indispensable that ample means should be provided for their enlargement—for the extension of the mains, service-pipes and meters, or they will prove an incubus to the Trust, if the present price of gas is to be continued.

The recent fire which occurred in the building immediately north of and adjoining our principal office in Seventh street, subjected us, for a period of some four weeks, to serious inconvenience, by crowding the clerks and books into the only two remaining and uninjured rooms in the south and rear end of the building. Three hundred dollars will doubtless cover the loss

we sustained. Workmen are now engaged by the Insurance Company, on behalf of the owners of the property, in making the necessary repairs. They have so far advanced with them that the offices are protected from the weather, and we have the use of them for the regular prosecution of the business of the Trust. In a short time, it is confidently believed, every repair will be completed.

It is proper to say, that notwithstanding the inconvenience to which we were so unexpectedly subjected, the business of the office was not suspended.

The new office provided by the Trust in the rear of the building, answers every expectation, and is creditable to the liberality of the Trustees.

On the night of the ninth instant, some evil disposed person, by means of false keys, opened the fire-proof safe in the gas office in the Fifteenth Ward, and abstracted seven hundred and thirty-three $\frac{18}{100}$ dollars, being a portion of the receipts of that day. The Mayor of the City was immediately put in possession of all the facts, and from the measures adopted by him, there is strong reason for believing that the offender will be speedily apprehended and brought to justice.

The private watchman belonging to the office has unfortunately disappeared since the robbery occurred. His place has been temporarily supplied by a trust-worthy man employed in the office, until a permanent appointment shall be made.

Respectfully submitted,

JOHN WIEGAND, *Cashier.*

Cash Account.

DR.

Balance, January 1st, 1856, - - -	$77,178 04

Receipts in 1856.

Sales of Gas, - - - -	862,270 63
" Coke, Tar, Lime, &c., - - -	35,200 71
" City Warrants, - - -	21,406 35
Interest on Loan 9, held for Sinking Fund, -	4,260 00
" City Loans, " " -	2,725 00
" Sales of Loan 9, - - -	291 25
Certificate of City Loan, paid, - -	300 00
Sales of Loan 9, - - - - -	278,500 00
Temporary Loans, - - - -	166,211 16
Extra Service Pipes and Meter Cocks, - -	16,671 15
	$1,465,014 29

CR.

Payments in 1856.

For the construction and enlargement of the works, - - - - -	$101,950 45
Extension of the Street Mains, - -	29,255 88
Service Pipes and Meters, - - -	66,992 60
Coal and other materials used in the manufacture of Gas; wages of workmen, &c., - -	477,425 45
Repairs of the Works, Street Mains, &c., -	95,384 35
Incidental expenses, Salaries and Services of Clerks, - - - -	102,185 14
Temporary Loans paid, - - - -	263,949 32
Interest on Temporary Loans, - -	1,413 52
Discount on City Warrants, - - -	7,100 38
Interest on Loans, - - - -	48,646 50
Investments for the Sinking Fund, - -	143,012 63
City Treasurer, for Interest on Loan, for $450,000, per Ordinance of March 20, 1855, -	59,505 00
City Warrants, - - - -	52 45
Balance on hand, January 1, 1857, - -	68,140 62
	$1,465,014 29

STATE OF THE WORKS, JANUARY 1ST, 1857.

Assets.

Works,	$1,114,819 79
Street Mains,	636,618 27
Service Pipes and Meters,	359,564 58
Public Lamps,	11,814 02
Cash,	68,140 62
Suspended Debt,	11,049 88
Stocks belonging to the Sinking Fund,	705,441 63
Coal on hand,	189,546 75
Coke on hand,	8,400 00
Rosin on hand,	3,360 00
Wood on hand,	1,500 00
Due for Gas sold, delivered, and on hand,	156,395 20
Due for Coke, Tar, &c.,	7,000 00
Interest on City Loans, due January 1, 1857,	1,364 00
Wharf Lot on the Schuylkill,	6,000 00
Site of the new Gas Works,	36,957 69
Spring Garden Gas Works,	300,000 00
Moyamensing Gas Works,	80,000 00
West Philadelphia Gas Works,	50,000 00
Frankford Gas Works,	20,000 00
Stocks belonging to the Sinking Fund, in the hands of the City Treasurer, as per Ordinance of March 20, 1855,	18,900 00
	$3,786,872 43

Liabilities.

Loans 1, 2, 3, 4, 5, 6, 7 and 8,	$1,370,000 00	
Loan 9,	410,200 00	
		$1,780,200 00
Dividends unpaid,		405 00
Interest on Gas Loans, including that due January 1st, 1857,		27,527 45
For Coals, Repairs and materials used in the manufacture of Gas,		279,310 63
Sinking Fund,		797,290 70
Sinking Fund, as per Ordinance of March 20, 1855,		18,900 00
Contingent Fund,		378,477 62
Profit and Loss, (amount of Suspended Debt,)		11,049 88
City of Philadelphia, for works taken, as per Ordinance of March 20th, 1855,		450,000 00
Temporary Loans,		43,711 15
		$3,786,872 43

[redacted]

STATEMENT OF THE SINKING FUND.

1856.		
Jan'y 1,	Amount of the Sinking Fund, - -	$705,320 20
June 30,	Six months' interest on $402,000 Gas Loans, at 6 per cent., - - -	12,060 00
	Six months' interest on $93,900 Gas Loans, at 5 per cent., - - -	2,347 50
	Six months' interest on $8,500 City Loans, at 6 per cent., - - -	255 00
	Six months' interest on $44,300 City Loans, at 5 per cent., - - -	1,107 50
	Six months' interest on $142,000, the amount taken for this Fund in the 6 per cent. Gas Loan, No. 9, issued by the City Treasurer, - - -	4,260 00
	Six months' appropriation of 2 per cent., per annum, on $475,000, Loans 1, 2 and 3, - - - - - - -	4,750 00
	Of 3 per cent. per annum, on $125,000, Loan 4, - - - - - - -	1,875 00
	Of 4 per cent. per annum, on $770,000, Loans 5, 6, 7 and 8, - - -	15,400 00
	Of 2 per cent. per annum, on $377,300, Loan 9, - - - - - - -	3,773 00
Dec. 31,	Six months' interest on $402,800 Gas Loans, at 6 per cent., - - -	12,084 00
	Six months' interest on $93,900 Gas Loans, at 5 per cent. - - -	2,347 50
	Six months' interest on $8,800 City Loans, at 6 per cent., - - -	264 00
	Six months' interest on $44,000 City Loans, at 5 per cent., - - -	1,100 00
	Six months' interest on $142,000, the amount taken for this Fund, in the 6 per cent. Gas Loan, No. 9, issued by the City Treasurer, - - - -	4,260 00
	Six months' appropriation of 2 per cent. per annum, on $475,000, Loans 1, 2 and 3, - - - - - - -	4,750 00
	Of 3 per cent. per annum, on $125,000, Loan 4, - - - - - - -	1,875 00
	Of 4 per cent. per annum, on $770,000, Loan 5, 6, 7 and 8, - - - -	15,400 00
	Of 2 per cent. per annum, on $406,200, Loan 9, - - - - - - -	4,062 00
		$797,290 70

The amount invested is as follows:

1856.			
Jan'y 1,	Cost of investments at this date, - -		$562,729 00
Feb'y 9,	For $142,000, Loan 9, taken as an investment, - - - - - -		142,000 00
Oct. 11,	Received for Certificate in 5 per cent. City Loan, which became due 1st July, - - - - -	$300 00	
	Bought Certificate of 6 per cent. City Loan, cost -	270 38	
		$ 29 62	
Nov. 14,	Bought Certificate of Gas Loan, for $300, redeemable 1862, cost - - -	279 75	
		$250 13	
Nov. 15,	Bought Certificate of Gas Loan, for $500, redemable in 1862, cost - - -	462 50	
			712 63
			$705,441 63
	Balance not invested, - - - -		91,849 07
			$797,290 70

STATEMENT OF THE SINKING FUND,

Directed to be accumulated and applied by the City Treasurer, as per ordinance of March 29th, 1855, for the redemption of $450,000, the estimated value of the Spring Garden, Moyamensing, West Philadelphia and Frankford Gas Works; placed in charge of the Trustees by said ordinance.

1856.				
Jan'y 1,	Amount not invested, - - - -			$4,698 25
June 30,	Cash paid City Treasurer for said fund, -			4,500 00
	Interest on City Loan, held for said fund,			297 00
Dec. 31,	Cash paid City Treasurer for said fund, -			4,500 00
	Interest on City Loan, held for said fund,			459 00
				$14,454 25
Jan'y 18,	By investment in City Loan,	$5,100, cost,	$4,610 25	
Nov. 19,	" "	100, "	90 25	
" 22,	" "	5,300, "	4,836 25	
				9,536 75
1851.				
Jan'y 1,	Amount not invested,			$4,917 50

Aggregate of investments for this fund, $15,300, in Certificates of 6 per cent.	
City Loan, cost - - - -	$13,982 50
Balance not invested, - - - -	4,917 50
	$18,900 00

CITY AND GAS LOANS BELONGING TO THE SINKING FUND, JANUARY 1, 1857.

Five per cent. City Loans:		
Redeemable in 1857, - -	$2,200	
1858, - -	7,100	
1859, - -	4,000	
1861, - -	1,100	
1862, - -	1,000	
1867, - -	3,900	
1870, - -	9,700	
1871, - -	5,200	
1872, - -	7,300	
1873, - -	2,200	
1874, - -	300	
		$44,000 00
Six per cent. City Loans:		
Redeemable in 1876, - -	$6,600	
1881, - -	600	
1888, - -	300	
1889, - -	1,300	
		8,800 00
Six per cent. Gas Loans:		
No. 1, redeemable in 1862, -	$11,200	
" 2, " 1863, -	57,300	
" 3, " 1861, -	32,100	
" 5, " 1868, -	36,100	
" 6, " 1869, -	14,100	
" 7, " 1870, -	66,100	
" 8, " 1872, -	185,900	
		402,800 00
Five per cent. Gas Loan, No. 4, redeemable in 1866, - - - - - - -		93,900 00
Six per cent. Gas Loan, No. 9, issued by the City Treasurer, - - - - - -		142,000 00
		$691,500 00
The cost of the above was, - - - -		$705,441 63

STATEMENT OF THE PROFIT AND LOSS ACCOUNT FOR 1856.

1856.			
Jan'y 1,	Amount due for Coals, Materials and Repairs, chargeable to the manufacture of Gas,	$188,948	56
Dec. 31,	Sales of Gas, in 1856,	862,270	63
	" Coke, Tar, Lime, &c.,	35,200	71
	Interest received on sales of Loan 9,	291	25
	Stock of Coal on hand,	189,546	75
	" Coke "	8,400	00
	" Rosin "	3,360	00
	" Wood "	1,500	00
	Due for Coke, Lime, Tar, &c.,	7,000	00
	" Gas,	156,395	20
	Suspended Debt,	11,049	88
		$1,463,962	98

Jan'y 1,	Amount of Stock on hand, and debts due to the works at this time,	$255,548	70
Dec. 31,	Payments for the manufacture of Gas, Coal and other materials and wages, including that of public lighting,	477,425	45
	Repairs,	95,384	35
	Incidental Charges, including Salaries and Services of Clerks,	102,185	14
	Interest on Temporary Loans,	1,413	52
	Discount on City Warrants,	7,100	38
	Interest on Gas Loans for the year 1856,	80,950	00
	Interest on Gas Loan 9, payable at the City Treasury,	23,505	00
	Appropriation to the Sinking Fund, as directed by Ordinances,	51,885	00
	Eight per cent. on $450,000, paid to City Treasurer, as per Ordinance approved March 20, 1855,	36,000	00
	Due for Coal, Repairs and Materials used in the manufacture of Gas,	279,310	63
	Suspended Debt, January 1st, 1856,	4,376	50
	Balance,	48,878	31
		$1,463,962	98

The above balance of	$48,878	31	
less the sum of	6,673	38	
being the increase of the suspended debt during the year, gives the net increase of the Contingent Fund for 1856,			$42,204 93

STATEMENT OF THE CONTINGENT FUND, FOR 1856.

Amount of the Fund, January 1st, 1856, -		$336,272 69
Increase during the year, as per the Profit and Loss account, - - - -		42,204 93
		$378,477 62
The amount raised under various Ordinances for the construction and enlargement of the works, and for extraordinary repairs and renewals, and for working capital, has been to January 1st, 1857,		
Loans 1, 2, 3, 4, 5, 6, 7 and 8,	$1,370,000	
Loan 9, sold, - -	410,200	
		$1,780,200 00
City of Philadelphia for works, per ordinance of March 20th, 1855, - - -		450,000 00
Contingent Fund, derived from profits, -		378,477 62
		$2,608,677 62
The amount expended has been:		
Construction of works, - - -		$1,114,819 79
Street Mains, - - -		636,618 27
Service Pipes and Meters, - -		359,564 58
Public Lamps, - - -		11,814 02
Wharf Lot on the Schuylkill, - -		6,000 00
Site of the new Gas Works, - -		36,957 69
Spring Garden " - -		300,000 00
Moyamensing " - -		80,000 00
West Philadelphia " - -		50,000 00
Frankford " - -		20,000 00
		$2,615,774 35
The Liabilities of the Works, Jan. 1st, 1857, are as follows:		
Construction of Works, Street Mains, Service Pipes and Meters, - -		$92,089 87
Coals, Repairs and Materials used in the manufacture of Gas, - - -		279,310 63
		$371,400 50

lighting, and the Baltimore Gas Light Company receives $3 00 for the same quantity. They are all private Companies.

Could the Trust have received $2 50 per thousand cubic feet for all the gas made at their works during the year 1856, the whole of the public lighting could have been performed by the Trustees for nearly one-half of the price which they received for it.

This is the true aspect in which this subject is to be examined, and it will be patent to every candid mind, that comparing the prices received by the Trust for private and public lighting, with the prices received for the same objects by other Gas Works, that the citizens of Philadelphia receive their public lighting at a much lower rate than any other of the Atlantic Cities of the Union.

Beside, it should not be forgotten, that if any profit should perchance accrue to the Trust by the performance of this service, the whole benefit inures to the citizens—it is their property.

There is another fact, too, which ought not to be lost sight of —that the Trust sustained a loss of over $7,000 during the past year by discounts on warrants on the City Treasurer received in payment for public lighting.

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The total number of public lamps, January 1, 1857, lighted under the contract with Councils, was 5,550. Of these, 877 are "fluid lamps," and the remainder 4,673 are "gas lamps." Of these "gas lamps," 835 are supplied with gas furnished by the Northern Liberties Gas Company; 161 are furnished with gas supplied by the Germantown Gas Company; 265 are furnished with gas supplied by the Southwark and Moyamensing Gas Company; 63 are furnished with gas supplied by the Manayunk Gas Company, and the remainder, 3,349, are directly supplied with gas from the works under the Trust.

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CITY REGISTRY.

DATE.	Applications.	Removals and Discontinuances.	PRIVATE LIGHTS.		PUBLIC LIGHTS.		
1856.			Added.	Total.	Streets.	Market Houses.	Squares.
To January 1st,	47,117	24,219	100,614	283,216	3,188	76	85
January, - -	287	229	1,573	284,789			
February, - -	310	262	1,251	286,040			
March, - - -	387	281	1,598	287,638			
April, - - -	637	398	2,898	290,536			
May, - - -	697	445	3,054	293,590			
June, - - -	520	333	2,043	295,633			
July, - - -	450	328	1,883	297,516			
August, - - -	481	353	2,122	299,638			
September, - -	828	529	2,899	302,537			
October, - -	831	495	4,173	306,710	43		
November, - -	1,113	489	3,678	310,388	35		
December, - -	599	352	3,080	313,468	6		
Total, - - -	7,140	4,494	30,252		84		
Brought down,	47,117	24,219	100,614		3,188	76	85
Grand Total, -	54,257	28,713	130,866	313,468	3,272	76	85

DATE.	Services Laid.	METERS SET.										PUBLIC LAMPS.		
1856.		3 Light.	5 Light.	10 Light.	20 Light.	30 Light.	45 Light.	60 Light.	100 Light.	150 Light.	500 Light.	On Posts.	On Walls.	Market Houses
To January 1st,	22,123	11,313	7,169	2,508	720	172	95	33	59	1		2,509	255	76
January, - - -	24	10	5	6	2	1	0	1	0					
February, - - -	26	3	14	7	1	0	0	0	1					
March, - - - -	34	9	13	5	5	2	0	0	0					
April, - - - -	352	154	138	38	13	4	3	2	0					
May, - - - -	281	122	95	52	11	0	0	1	1					
June, - - - -	163	64	52	36	9	1	1	0	0					
July, - - - -	136	60	31	30	11	1	3	0	0					
August, - - -	129	64	37	20	8	0	0	0	0					
September, - -	293	141	71	45	29	2	4	1	0					
October, - - -	343	142	109	54	27	9	2	0	1			43		
November, - - -	321	164	84	47	18	1	1	1	1		4	35		
December, - - -	221	122	49	35	10	2	1	2	0			6		
Total, - - - -	2,323	1,055	698	375	144	23	15	8	4		4	84	0	0
Brought down, -	22,123	11,313	7,169	2,508	720	172	95	33	59	1	0	2,509	255	76
Grand Total, - -	24,446	12,368	7,867	2,883	864	195	110	41	63	1	4	2,593	255	76

DATE.	MAIN PIPE LAID IN STREETS, LINEAL FEET.										
1856.	1¼ inch	2 inch	3 inch	4 inch	6 inch	8 inch	10 inch	12 inch	16 inch	20 inch	TOTAL.
To January 1st, - -	426	118,138	443,100	327,961	75,595	43,862	17,475	21,776	11,133	22,633	1,082,099
January, - - - - -											
February, - - - - -											
March, - - - - -			216								216
April, - - - - -			1,711	1,143	7,065	3,834					13,753
May, - - - - - -			2,763	5,580							8,343
June, - - - - - -		302	1,492	63						500	2,357
July, - - - - - -			701	1,071	5		5			4	1,786
August, - - - - -		306	345	81							732
September, - - - -		456	3,974	2,097	207						6,734
October, - - - - -		431	3,284	3,227							6,942
November, - - - -		234	3,182	2,230	9						5,655
December, - - - -		227	2,273	1,104							3,604
Total, - - - - - -		1,956	19,941	16,596	7,286	3,834	5			504	50,122
Brought down, - - -	426	118,138	443,100	327,961	75,595	43,862	17,475	21,776	11,133	22,633	1,082,099
Grand Total, - - -	426	120,094	463,041	344,557	82,881	47,696	17,480	21,776	11,133	23,137	1,132,221

REPAIRS OF SERVICES.

1856.	Stop-Cocks Renewed.	New Covers for Stop-Cock Boxes.	Services Renewed.	New Stop-Cock Boxes.
January, - - - - - -	5	0	2	0
February, - - - - - -	12	0	2	0
March, - - - - - - -	7	4	0	1
April, - - - - - - -	9	95	2	130
May, - - - - - - - -	16	198	3	202
June, - - - - - - -	11	51	5	69
July, - - - - - - - -	15	8	4	12
August, - - - - - - -	21	13	5	22
September, - - - - -	16	7	8	8
October, - - - - - -	24	6	3	10
November, - - - - -	28	7	12	14
December, - - - - -	12	2	2	3
Total, - - - - - - -	176	391	48	471

STATEMENT OF GAS

Paid for in each month of the year, made in the First, Ninth and Fifteenth Wards, being the amount of Bills as per Meters to the first of the month.

1856.	Feet of Gas Consumed at Private Houses.	Public Lamps.	Supplied to Southwark Gas Company.	Sup'd by S. G. Works. Feet of Gas Consumed at Private Houses.	Sup'd by S. G. Works. Public Lamps.	TOTAL.
January, -	28,438,440		6,018,500	4,990,400		39,447,340
February,	26,527,970			5,444,900		31,972,870
March, -	31,843,700			5,162.200		37,005,900
April, - -	21,871,170		5,439,400	5,124,700		32,435,270
May, - -	19 914,900			3,760,500		23,675,400
June, - -	23,768,070			3.509,300		27.277,370
July, - -	13,177,900		3,929,000	2,953,600		20,060,500
August, -	10,270,100			2,491,400		12,761,500
September,	13,020,700			2,249,000		15,269,700
October, -	12.301,600		3,642,100	2,901,800		18,845,500
November,	18,472,000			4,097,000		22,569,000
December,	29,207,200	58,809,600		8,132,000	22,125,600	118,274,400
Total, - -	248,813,750	58,809,600	19,029,000	50,816 800	22,125,600	399,594,750
Inventory of Stock of Gas delivered and on hand—						6,265,450
Spring Garden, Jan. 1, 1857,	14,136,200		City, Jan. 1, 1857,	66,185,515		
" Jan. 1, 1856,	9,911,400		" Jan. 1, 1856,	64.144,865		
	4,224,800			2,040,650		405,860,200

ANNUAL REGISTRY

OF CONSUMERS, AND PRIVATE AND PUBLIC LIGHTS.

DATE.	Applications.	Removals and Discontinuances.	Total Number of Consumers.	PRIVATE LIGHTS.		PUBLIC LIGHTS.			
To December 31st,				Added.	Total.	Streets.	Market Houses.	Squares.	Total.
1836,	301	24	277	2,952	2,952	165			165
1837,	497	108	666	3,862	6,814	136			301
1838,	849	174	1,341	4,288	11,102	133		62	496
1839,	946	300	1,987	5,380	16,482	162	18		676
1840,	788	382	2,393	3,317	19,799	112	1		789
1841,	874	493	2,774	4,387	24,186	13	8		810
1842,	845	541	3,078	3,054	27,240	30			840
1843,	986	635	3,429	3,418	30,658	59			899
1844,	1,000	503	3,926	4,940	35,598	195			1,094
1845,	1,147	629	4,444	5,754	41,352	112			1,206
1846,	1,465	717	5,192	8,138	49,490	96			1,302
1847,	1,869	887	6,174	12,987	62,477	84	10		1,396
1848,	1,956	1,002	7,128	13,935	76,412	21			1,417
1849,	2,191	1,180	8,139	18,050	94,462	74			1.491
1850,	2,227	1,150	9,216	20,542	115,004	72	13		1,576
1851,	2,529	1,339	10,406	21,616	136,620	124			1,700
1852,	3,004	1,747	11,663	20,550	157 170	118			1,818
1853,	3,280	1,954	12,989	25,432	182,602	87		23	1,928
1854,	2,884	1,969	13,904	18,127	200,729	27			1,955
1855,	17,479	8,485	22,898	82,487	283,216	1,368	26		3,349
1856,	7,140	4,494	25,544	30,252	313,468	84			3,433
Total, - - - - -	54,257	28,713		313,468		3,272	76	85	

STATEMENT OF METERS SET EACH YEAR.

DATE. To Dec. 31st,	Services Laid.	METERS SET.									
		3 light.	5 light.	10 light.	20 light.	30 light.	45 light.	60 light.	100 light.	150 light.	500 light.
1836,	251	108	98	31	9	2	3				
1837,	411	301	77	19	6	2	3		3		
1838,	690	442	159	61	13	9	2	1	3		
1839,	649	421	118	75	26	6	3				
1840,	350	198	78	54	13	3	2		2		
1841,	375	203	93	63	14	2					
1842,	299	157	76	57	6	3					
1843,	348	180	110	50	7	1					
1844,	503	292	129	72	5	3	1		1		
1845,	523	311	151	49	7	4		1			
1846,	761	390	237	113	14	4	2	1			
1847,	999	481	300	202	12	1	3				
1848,	971	408	333	196	25	4	3	1	1		
1849,	1,029	366	366	234	46	7	5	2	3		
1850,	1,079	435	412	165	50	8	3	3	3		
1851,	1,211	534	373	204	76	15	4	2	3		
1852,	1,261	638	334	200	60	18	7	3	1		
1853,	1,364	688	360	167	92	23	12	6	15	1	
1854,	939	470	207	127	89	29	14	2	1		
1855,	8,110	4,290	3,158	369	150	28	28	11	23		
1856,	2,323	1,055	698	375	144	23	15	8	4		4
Totals, - -	24,446	12 368	7,867	2,883	864	195	110	41	63	1	4

LENGTH OF MAINS LAID IN STREETS EACH YEAR, IN LINEAL FEET.

DATE.	1½ inch.	2 inch.	3 inch.	4 inch.	6 inch.	8 inch.	10 inch.	12 inch.	16 inch.	20 inch.	TOTAL.
1836,		2,310	15,951	10,184	4,018		9,140				41,603
1837,		3,468	13,068	4,302	6,984						27,822
1838,		150	15,660	14,409	9,036		27	10,881	2,340		52,503
1839,		1,704	11,629	11,997	4,419	3,726					33,475
1840,		222	1,674	576	261						2,733
1841,		204	8,874	7,137	27						16,242
1842,		324	6,831	3,483	360	774					11,772
1843,		966	32,796	16,767	1,395	1,053					52,977
1844,		30,696	38,655	23,555	2,358	3,663	891				99,818
1845,	426	3,240	9,360	4,725	837						18,588
1846,		10,734	9,855	8,442	378	2,070					31,479
1847,		4,164	6,660	2,808	900	135					14,667
1848,		1,734	7,578	3,897	1,458	477					15,144
1849,		9,690	9,117	5,724	2,934	13,284	4,266	2,619	8,073	495	56,202
1850,		6,666	9,513	6,345	2,718						25,242
1851,		11,901	18,441	10,755	720	324					42,141
1852,		18,864	19,710	14,958		1,359				6,867	61,758
1853,		7,152	3,744	3,780	414				720	7,257	23,067
1854,		678	1,026	828							2,532
1855,		3,271	202,958	173,289	36,378	16,997	3,151	8,276		8,014	452,334
1856,		1,956	19,941	16,596	7,286	3,834	5			504	50,122
Totals, - - - - -	426	120,094	463,041	344,557	82,881	47,696	17,480	21,776	11,133	23,137	1,132,221

STATEMENT OF GAS DELIVERED TO PUBLIC AND PRIVATE LIGHTS TO DECEMBER 31, IN EACH YEAR, BY THE WORKS IN THE FIRST AND NINTH WARDS.

YEAR.	PUBLIC LIGHTS.	PRIVATE LIGHTS.	SPRING GARDEN.	SOUTHWARK.	MOYAMENSING.	WEST PHILAD'A.	Used at Offices, Shops and Works, loss by leakage, etc.	MADE AT WORKS.
1836,	978,812	4,752,740					749,748	6,481,300
1837,	1,397,687	14,454,891					1,226,122	17,078,700
1838,	3,013,546	22,366,004					1,977,450	27,357,000
1839,	6,280,654	30,658,145					2,534,201	39,473,000
1840,	8,028,818	34,874,380					2,506,802	45,410,000
1841,	10,208,180	39,648,000					1,415,820	51,272,000
1842,	13,292,000	36,596,830					922,170	50,811,000
1843,	12,985,851	34,579,900					1,324,249	48,890,000
1844,	13,608,356	40,022,800					1,152,844	54,784,000
1845,	13,373,798	46,702,800					926,402	65,003,000
1846,	19,164,106	55,219,800	163,400				906,694	75,454,000
1847,	19,122,293	68,071,600	2,507,100				1,846,007	91,547,000
1848,	19,924,700	78,921,350	6,817,000				1,109,950	106,773,000
1849,	24,524,950	96,247,100	10,713,200	2,322,800	195,800		1,505,150	135,509,000
1850,	28,482,800	131,258,400	17,650,600	3,457,800	417,900		748,500	182,016,000
1851,	36,524,625	145,114,200	7,039,800	5,279,000	1,254,700		5,629,675	200,842,000
1852,	38,306,250	162,093,100		5,927,900	2,892,400	354,600	6,641,750	216,216,000
1853,	37,406,625	191,679,750		10,458,200	5,810,700	2,765,720	1,306,005	249,427,000
1854,	40,177,874	209,334,300		14,989,200	8,304,000	6,501,800	2,916,826	282,224,000
1855,	48,049,050	209,606,065		18,099,000	7,660,600	10,386,200	6,212,085	300,013,000
Works in the 15th Ward, from April 1st, 1855,	10,270,300	27,644,100					9,850,000	2,246,581,000 47,764,400
Total, - - - - - -								2,294,345,400

STATEMENT OF GAS

Made at all the Works Managed under the Trust, and of that Delivered to Public and Private Lights, from Jan. 1st to Dec. 31st, 1856.

YEAR 1856.	Made at Work in First, Ninth and Fifteenth Wards.	GAS DELIVERED TO			Used at Works and Offices of the Trust, and lost by leakage, &c.
		Public Lights.	Private Lights.	Southwark Gas Company.	
	434,742,000	80,935,200	304,961,250	18,992,500	29,853,050
Made in Previous Years, -	2,294,345,400				
Total, - - -	2,729,087,400				

The increased per centage of loss and waste of gas in the past year, results from several obvious causes: one is the recent connections with the pipes in the outer Wards, which are much less gas-tight than they ought to be; another, is the breakage of several large mains, and a third, the waste and blowing out the air from the large gas holder in First Ward, when first filled, and from an unusually large quantity of Street Mains, into which gas was newly introduced.

A COMPLETE LIST

OF THE

TRUSTEES OF THE PHILADELPHIA GAS WORKS,

FROM THE COMMENCEMENT,

IN THE ORDER OF THEIR APPOINTMENT.

Elections by Select Council, March 26th, 1835.

Benjamin W. Richards, John R. Latimer,	for one year.
A. D. Bache, W. H. Keating,	for two years.
J. P. Wetherill, H. M. Zollickoffer,	for three years.

Elections by Common Council.

John Farr, R. M. Huston,	for one year.
Frederick Fraley, Ephraim Hains,	for two years.
M. W. Baldwin, Thomas Cave,	for three years.

B. W. RICHARDS, *President.*
SAMUEL V. MERRICK, *Engineer.*
BENJAMIN MATTHIAS, *Secretary.*

B. W. Richards resigned the Presidency June 20th, 1835.

Dr. R. M. Huston elected President July 10th, 1835.

Dr. J. K. Mitchell elected July 9th, 1835, in place of B. W. Richards, resigned.

John Siter elected January 28th, 1836, in place of J. K. Mitchell, resigned.

Benjamin Matthias, Secretary, resigned March, 1856.

Frederick Brown elected January 19th, 1837, in place of A. D. Bache, whose term of service expired.

Samuel V. Merrick, Engineer, resigned February, 1837.

Alexander Ferguson elected November 23d, 1837, in place of Ephraim Haines, deceased.

John Wiegand elected April 12th, 1838, in place of H. M. Zollickoffer, resigned.

A. D. Bache elected September 27th, 1838, in place of John Siter, resigned.

George Handy elected January 30th, 1839, in place of J. R. Latimer, resigned.

Thomas Cave elected President in place of Dr. R. M. Huston, resigned June 28th, 1839.

Charles Gilpin elected January 14th, 1841, in place of W. H. Keating, deceased.

Thomas S. Smith elected January 28th, 1841, in place of M. W. Baldwin, whose term of service expired.

G. H. Burgin elected January 20th, 1842, in place of George Handy, whose term of service expired.

Isaac Myer elected January 20th, 1842, in place of R. M. Huston, whose term of service expired.

Samuel Norris elected January 19th, 1843, in place of Alexander Ferguson, whose term of service expired.

Isaac Barton elected January 18th, 1844, in place of Thomas S. Smith, whose term of service expired.

John C. Davis elected November 7th, 1844, in place of A. D. Bache, resigned.

Frederick Fraley elected President in place of Thomas Cave, deceased, March 28th, 1845.

Joseph S. Lovering elected April 10th, 1845, in place of Thomas Cave, deceased.

John Trucks elected June 19th, 1845, in place of Charles Gilpin, resigned.

Jacob E. Hagert elected January 29th, 1846, in place of Frederick Brown, whose term of service expired.

Frederick Brown elected March 25th, 1846, in place of John Farr, deceased.

M. W. Baldwin elected October 28th, 1847, in place of John Trucks, resigned.

John Agnew elected December 23d, 1847, in place of J. E. Hagert, resigned.

William Morris elected January 20th, 1848, in place of J. C. Davis, whose term of service expired.

John F. Gilpin elected January 20th, 1848, in place of G. H. Burgin, whose term of service expired.

G. H. Burgin elected April 6th, 1848, in place of J. S. Lovering, resigned.

John C. Davis elected April 13th, 1848, in place of W. Morris, resigned.

James Traquair elected January 18th, 1849, in place of Frederick Brown, resigned.

John Lindsay elected December 20th, 1849, in place of J. P. Wetherill, resigned.

Lewis Cooper elected December 20th, 1849, in place of J. C. Davis, resigned.

B. M. Feltwell elected January 31st, 1850, in place of Isaac Barton, resigned.

E. Y. Farquhar elected March 15th, 1850, in place of J. Lindsay, resigned.

John C. Davis elected October 24th, 1850, in place of E. Y. Farquhar, resigned.

Charles Lennig elected October 24th, 1850, in place of John Agnew, resigned.

Benjamin Gerhard elected January 30th, 1851, in place of Isaac Myer, resigned.

E. A. Souder elected January 29th, 1852, in place of M. W. Baldwin, resigned.

Samuel R. Brick elected January 25th, 1855, in place of E. A. Souder, whose term of service expired.

Wm. J. P. White elected January 25th, 1855, in place of Charles Lennig, whose term of service expired.

John Manuel elected January 25th, 1855, in place of Samuel Norris, whose term of service expired.

Wm. G. Flanagan elected January 25th, 1855, in place of Frederick Fraley, whose term of service expired.

John Wiegand elected President, in place of Frederick Fraley, whose term of service expired.

Frederick Fraley elected August 2d, 1855, in place of John Wiegand, resigned.

Paul J. Field elected January 31st, 1856, in place of John C. Davis, whose term of service expired.

John M. Odenheimer elected January 31st, 1856, in place of Benjamin M. Feltwell, whose term of service expired.

G. W. Biddle elected June 26th, 1856, in place of W. G. Flanagan, resigned.

Anthony Miskey elected January 29th, 1857, in place of John F. Gilpin, whose term of service expired.

Andrew C. Craig elected January 29th, 1857, in place of James Traquair, whose term of service expired.

TWENTY-THIRD

ANNUAL REPORT

OF THE

TRUSTEES

OF THE

PHILADELPHIA GAS WORKS.

JANUARY, 1858.



TWENTY-THIRD

ANNUAL REPORT

OF THE

Trustees of the Philadelphia Gas Works,

TO THE

SELECT AND COMMON COUNCILS

OF THE

CITY OF PHILADELPHIA.

JANUARY, 1858.

PHILADELPHIA:
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BOARD OF TRUSTEES, 1858.

PRESIDENT.

ANDREW C. CRAIG.

FREDERICK FRALEY,
DR. GEORGE H. BURGIN,
LEWIS COOPER,
BENJAMIN GERHARD,
PAUL J. FIELD,
JOHN M. ODENHEIMER,
ANTHONY MISKEY,
HARRY CONNELLY,
WILLIAM M. REILLY,
DR. WILLIAM B. SMALL,
CHARLES L. WOLFF.

ENGINEER.

JOHN C. CRESSON,

Appointed Aug. 26th, 1836.

CASHIER.

WILLIAM FENNELL,

Appointed April 10th, 1857.

REGISTRAR.

JOHN P. MURTA,

Appointed April 10th, 1857.

REPORT.

To the Select and Common Councils of the City of Philadelphia:

The Trustees of the Philadelphia Gas Works, in presenting their Twenty-third Annual Report, have the pleasure of exhibiting, in an intelligible form, a clear and comprehensive statement of the financial and effective condition of one of the most successful enterprises ever undertaken by a municipal body.

From their inception in the year 1835, to the present time, the history of these works has formed part of the archives of the City, and has been laid open to public inspection from year to year, in minute detail, without the slightest reserve.

When the erection of the works was first authorized, many of our most esteemed and intelligent fellow-citizens entertained grave doubts as to the propriety of such an undertaking, even on the moderate scale then contemplated; and the consent of a majority in Councils could be obtained only on conditions which should keep the City Treasury free from liability on account of the enterprise, and, at the same time, place its management entirely subject to the control of the corporate authorities.

So imperfect were the arrangements then adopted in other cities for the manufacture and distribution of gas, that its use was believed to be necessarily limited to public or open business establishments; its most ardent advocates did not assert for it any claim to extensive domestic use.

An aim kept steadily in view in the construction and management of the Philadelphia Gas Works, was to remove the defects and dangers which formed the chief obstacle to the general use of gas for all the purposes of life.

In their selection of officers and agents to carry their ideas into practical effect, the original Board of Trustees were so peculiarly fortunate, that the improved methods first adopted in the early construction and subsequent enlargement of the

establishment, have long been esteemed models, and adopted as such almost universally.

Among the various improvements originating in the Philadelphia Gas Works, one of the earliest after they went into operation, was the establishment of a prescribed rule for the regulation of the size and materials of the pipes and fittings used for distributing the supply of gas to the consumers.

There had previously been no definite regulation known or practised, and great inconveniences had been experienced for the want of it. At the request of the Trustees the present Engineer of these works instituted a scientific investigation of the subject, and computed the practical formulæ from which he derived our present regulations. And it is worthy of note, that their adaptation to their intended object was so complete, that after the test of twenty years' experience, no reason has been found for making the slightest variation in them, and they have for many years been universally accepted as an authoritative rule, not only throughout the United States, but in many foreign countries.

The Philadelphia Gas Works first introduced the system of giving increased purity to their gas by means of refrigerating jets thrown into the gas while hot, and arranging the condensers in multifold series of small pipes, instead of increasing the diameter of the condenser pipes, as the make of gas increased. The advantage of this system has been made very apparent by the contrast of its results with those of the works in the Fifteenth Ward, where the old-fashioned condensers are in use. The gas passes from these so imperfectly freed from ammoniacal and other condensible vapors, that it loses greatly in volume after reaching the street mains, and produces thus a large apparent loss or waste.

The loss, even after closing all the leaks that have been found, being about four times as great as in the City Works; where the more perfect preparation of the gas, before measuring it at the works, conjoined with great care in laying the street pipes, reduced the loss to an average of less than three per cent. a year.

The loss at the Fifteenth Ward Works, before the leakage of their pipes was remedied, reached about 20 per cent. per

annum, and even after many of the leaks have been discovered and stopped, the condensation is so great as to make the whole loss of the entire consolidated works reach nearly six per cent. The system of condensation at the new works in First Ward is the same as was used in the works in the Ninth Ward. In some other respects, however, these new works are greatly improved. The arrangements for hoisting and storing coal save about 25 cents a ton in handling this heavy article. The settings of the retorts render them much more effective, so that with the same retorts, labor, and fuel, they yield a much larger quantity of gas.

The pneumatic exhausters, by relieving the retorts of the great pressure of the nascent gas, have increased the yield of gas from the ton of coal nearly five per cent., and have improved its quality by diminishing the loss of the rich hydrocarbons which are usually deposited in a thick coat of carbon on the interior of the retorts, thus wasting gas and impairing the capacity of the retort. By the use of these exhausters we have been enabled to dispense with the counterweights of the gas-holders, and thus obtained much greater control over the proper regulation of the pressure in the street mains. To guide the workmen in the exercise of this control over the pressure, instruments for recording the pressure at all hours of the day and night have been introduced at various points, and it is proposed to increase the number of these as may be required from time to time.

The large gas-holder in First Ward has completely fulfilled every expectation, working with perfect ease and regularity, and is quite as manageable as any of the small ones, while its cost for cubic foot of storage is very much less.

The statistics of the cost and working capacity of the different portions of the works are taken from the original records and vouchers filed in the office, and have been compiled with great care and labor so as to insure their accuracy.

In the recent examination into the affairs of the Gas Works, by a Committee of your body, it has afforded the Trustees much pleasure to extend every possible facility, being confident that it must result in like manner with all previous investigations, in setting forth more conspicuously the careful and faithful

management under which the department has pursued its quiet and unostentatious course.

Among the allegations made to the recent Committee of Inquiry, there was one which requires some notice here, on account of the complete recklessness it exhibits on the part of persons whose desire seems to have been to bring discredit on the management of the works. One of the witnesses is said to have testified on oath, that there had been a large increase in the expenses of the Fifteenth Ward Works, after they came under the control of the Trustees.

As no books or documents, exhibiting the transactions of these works, were found in the office, or furnished to the Trustees, it seemed to be no easy task to disprove such statement. But happily for the cause of truth, the want of funds for the payment of the men employed for the month or two previous to the consolidation of the works, rendered it necessary to produce a time sheet, or pay list, showing the sums then due; which sums, with all other outstanding debts, were payable by the Trustees. An examination of the pay list presented to the Trust by this very witness, shows that the wages paid for gas-making, in the month of March, 1855, being the last month of his management, was nearly one thousand dollars more than was paid in March, 1856, when twenty per cent. more gas was made, and several hundred dollars more than was paid in March, 1857, when the make of gas was nearly two-fold. Testimony given with so little regard to facts, merits no comment.

In like manner, have the disparaging statements that have been so industriously circulated within the past three years, been proven destitute of truth, whenever they have been made sufficiently specific to admit of investigation. No less than four official investigations having been made at the instigation of the leaders in this system of misrepresentation; two by the Board of Trustees, and two by Committees of Councils.

There having been some currency given to an opinion, that the cost of the recent additions to the works has been much greater than the estimates, a few remarks on the subject will not be out of place in this report.

In one sense, the whole works have greatly exceeded in their cost the early estimates. For example—the original esti-

mate for the cost of the Philadelphia Gas Works was $100,000, with a probable increase to $125,000; and the cost to the present time has been over $2,600,000, or more than twenty times the highest original estimate; but surely, no one can fairly say that this is an excess of cost beyond estimate in the ordinary and proper meaning of the phrase.

The establishment for which the estimate was given, was intended to make 75,000 feet of gas per day, and store 70,000 feet with proportionate distribution, and it was built at a cost within the second named sum. The works now built have a capacity for making 2,700,000 feet per day, and storing 3,800,000, with proportionate distribution, being nearly forty times the extent of those for which the original estimate was made. In this sense only have the works in First Ward, or any other extension of these works, cost more than was estimated.

Such greater cost having in every instance arisen from the greater extent of the work done beyond what was at first contemplated, and such greater extent being the consequence of increased demands for gas.

When, in January, 1851, the sum of $300,000 was named as the amount required for the new section of works, it was expressly stated, that it was for one section similar to that just completed at the Ninth Ward station, which had a capacity for making 320,000 feet of gas, with a regulating gas-holder suitable for the requirements of the ensuing three or four years. The site then in view, was within one mile of the old works, requiring less than a mile in length of connecting main, and was also within reach of the City water mains.

The site afterwards obtained was nearly three miles distant, and out of reach of the City water mains. The general preparations instead of being limited to the requirements of auxiliary works suitable for the few next years, have necessarily been extended to meet the requirements of the entire supply of the city, not merely for the seven years already elapsed, but for a long time to come. Instead of one section, producing 320,000 feet, two sections have been completed, with a capacity for making a million feet a day, and storing nearly two million. The magnitude of the works being three times that estimated

for, while the cost is only twice the sum named for the early designs.

As soon as the more distant location became probable, an estimate was given of the cost of one section at this point, the amount being $400,000, which sum was then authorized by Councils, by Ordinance of 20th of March, 1851. The first section was built and put in operation in December, 1854, at a cost several thousand dollars less than the appropriation. Some idea may be formed of the magnitude of the new works from a view of a few items of a general nature, necessary for making the early structures conform to the plans of the future entire works.

For grading the grounds, 40,240 cubic yards of earth were required. The wharf on the river front has an area of 60,000 square feet, with 30 feet depth of water in front. The water mains have an extent of 3,570 feet.

The connecting gas mains and pipes are 10,820 feet long. The plank roads cover 30,000 square feet. The railroad tracks have a length of 2,654 feet at these Works, and 4,280 feet at Ninth Ward.

To a person unacquainted with the daily practical details of gas-making, these costly additions may appear superfluous; but it is demonstrable to any skillful and experienced gas engineer that the saving in current expenses will repay many times over the interest on their cost.

In the purchase of bituminous coals for the Gas Works, the Trustees have been governed in estimating their value by the judgment and experience of their Engineer.

It has been their policy to give a preference to the coals mined in our own State whenever they could be obtained on as good terms as coals from other sources of equal quality.

The just value of coals for gas-making purposes can only be arrived at by a careful chemical analysis of their constituents, and by a photometrical measurement of the illuminating power of the gas they yield; all of which are carefully made by the Engineer and his Assistant, and their value for practical working, &c., proved before purchasing for use on the large scale.

It is a well-established fact, that the dryer coals can be kept before used for carbonizing, the better they are for making gas,

as there is a great gain in using dry coals over damp, both in the quantity and quality of the gas produced; besides, the presence of moisture in coals has been found to exert an injurious influence upon the retorts, and, to a certain extent, retard the operation of the carbonization, for when put into the retorts in a damp state, the moisture is speedily converted into steam, the presence of which causes the formation of carbonic acid and carbonic oxide gases, which cause a more rapid destruction of the retorts, and proves detrimental to the illuminating properties of the gas obtained.

A distinguished French chemist, M. Penot, considers that even 10 per cent. of hygrometric moisture in coal, deteriorates the illuminating power so much that the proportion of olefiant (illuminating gas) from such coal, to that of dry coal, is as 1 to 1.5. These results have been confirmed by experiments on a large scale, and by the long experience of the Engineer of the City Gas Works, and it is believed that the large and convenient sheds which have been erected for the storage of coal at the new works, referred to by him in his report, will fully meet his expectation, and greatly increase the profit of the works by the saving they will make in keeping the coal dry and in good working order.

On the 31st day of March, 1857, Mr. John Wiegand resigned as Cashier of the Gas Works, having accepted the Presidency of the Western Saving Fund Society.

His resignation was accepted with great regret by the Trustees, as the long connection of Mr. Wiegand with the works as a Trustee, and his peculiar qualifications, both of experience and personal fitness, gave a confidence in him as the financial head of the establishment, which was of great value.

In addition to the regular semi-monthly examinations of his accounts, Mr. Wiegand requested on his retirement that there should be another, embracing the whole period of his service, which was made, and every item of money or securities received by him were fully accounted for, and the resulting balances handed over to his successor.

While Mr. Wiegand occupied the important post of Cashier, every duty which even in the remotest degree might be considered as under his charge, was most faithfully and efficiently

discharged, and many important arrangements made of great benefit to the Trust.

Among these was the organization and practical working of the Department of Public Lighting, then recently confided to the Trustees by an Ordinance of the City.

Indeed, the whole course of Mr. Wiegand's official connection with the Trust was marked by success in his arrangements, and won for him the entire confidence and cordial approbation of the Trustees.

Since the 12th day of June, 1857, the Departments of Distribution and Public Lighting have been under the care of Mr. Alexander J. Kite, and he appears to be faithfully laboring for the interests of the Trust, and for the proper discharge of his duties to the public.

The Engineer's and Cashier's reports, herewith presented, exhibit, in full detail, the operations of the last official year in the departments under their charge.

As both of these gentlemen have been officially connected with the Trust for upwards of twenty years, that fact is of itself sufficient to show the estimation in which we hold them, and they need no other eulogy.

There are some topics of interest, which ought not to be omitted from this report. Among these are the telegraphic arrangements made during the year, by which all the several manufacturing stations and the offices are kept in constant communication with each other, and with the Police and Fire Telegraph lines of the City. These arrangements save time and money in the details of our at present vast business, and, as an economical problem, have resulted in an absolute gain of money.

The facility with which the supply of gas can be checked from one station, and increased from another; the additional security given to life and property, by promptly shutting off from buildings on fire; the almost constant necessity for transmitting messages from point to point, make the magnetic telegraph an almost indispensable servant, and fully realize the views of the Engineer when he urged its adoption.

As the permanent capital provided for the enlargement of the works, and the increase of the distribution of gas to cus-

tomers, has for some time been exhausted, the additions of this character have been very limited; indeed, they are now only furnished to new customers when they are willing to advance the cost of the service-pipe and meter, and that of the street main, should it not have already been laid. In meeting the demands of new customers, the Board have gone so far that they retained out of the authorized capital a very small sum for working means in the supplies of stock and labor for the factories.

This is a great disadvantage, and can only be corrected by speedy legislation of Councils, or by persisting in the policy of declining new custom until the profits accumulate, by the annual appropriations to the Contingent Fund, to an extent that will furnish a full amount of working capital.

When that is reached, a small sum will be applicable for extensions of distribution and enlargement of works; but it is respectfully submitted that such postponement will be a sort of injustice to such portions of the City as are not now reached by gas mains, and to individuals located on lines already made, whose adjoining neighbors have been heretofore supplied with gas on the terms originally established, and continued so long as any provision for such permanent investments lasted.

It will be perceived that this is a question altogether independent of any projects now pending for the purchase of the property owned by the incorporated Gas Companies doing business within parts of the City limits.

Whatever may be the public or private considerations urged for the purchase of such property, they have not originated with this Board, and their settlement in any way will not affect the applications made by citizens who would be supplied from the Works already under the charge of the Trustees.

Under the powers granted to the Trustees, the price of gas is already as high as the ordinances permit to be charged. To raise the needful funds by an increase of price, will require legislation by Councils.

The Board therefore recommends that authority should be promptly given to raise, either by loan in the usual form, or by some other equitable method, such an amount as will meet the demands of new customers, independently of any projects for

the purchase of the works of the corporate companies. By such plan there will be no increase of taxation, and no injustice to any one, either gas stockholders or their customers; our works being self-supporting, imposing no burthen upon those who deal with them, as any difference in price is no more than the difference they regularly meet and pay for every other commodity when they purchase in different markets. It would be different, and oppressive, indeed, upon such citizens, if the Philadelphia Gas Works were supported out of taxes, but they never have, and properly managed, never will cost one cent to the City Treasury.

On the first instant, the amount of the Sinking Fund was $890,920.70; of this sum, $727,300 are invested in City and Gas loans, at a cost of $735,961.05. For the balance, the Trustees hold $63,375.46 in City warrants, as a temporary investment, which will be used for the purchase of loans for the Sinking Fund as rapidly as the City Treasurer will pay off such warrants.

The total cost of the Works to Jan. 1, 1858, is $2,731,867.86. Of this amount, $1,836,300 have been paid by the loans authorized for the Trust, and the sum of $450,000 credited to the City of Philadelphia, as the cost of the Spring Garden, Frankford, West Philadelphia and Moyamensing Gas Works. Of the balance, the sum of $384,526.86 has been paid out of the profits of the Works, and $61,051 borrowed temporarily from the Sinking Fund. The Sinking Fund now amounts to the sum of $890,920.70, so that the real indebtedness for them is only $1,395,379.30. If held by a stock company, the profits of 1857 would have given a dividend of about 8 per cent. on the gross capital of $2,731,867.86, or 14 per cent. on the present net capital of $1,395,379.30.

The money accounts of the Trust are very large, but the system of accountability, and of regular examination and verification is rigid. This system, and the regular enforcement of cash payments from customers, have kept the concern comparatively clear from losses by bad debts, or fraud, or negligence.

The collecting and accounting officers all feel a personal interest in the working of and perfection of this system, and its

results, both for them and for the Trustees, are justly matters of pride and exultation.

As the Gas Works are a great public Trust, they ought to claim the especial care and supervision of Councils. The books, papers, and every matter connected with the Trust, are, by its constitution, open to such supervision, and it will at all times be a gratification to the Trustees to meet any committee of Councils, and to submit to such scrutiny as will prove the faithful administration of duty on their part.

GEO. H. BURGIN, *President.*

Attest, JNO. P. MURTA, *Registrar.*

OFFICE PHILADELPHIA GAS WORKS,
January 28th, 1858.

ENGINEER'S REPORT.

To the Trustees of the Philadelphia Gas Works:

The undersigned has the honor to lay before the Board of Trustees his Twenty-second Annual Report of the condition of the works confided to his care, and the results of their operations during the year just closed.

The several factories belonging to the Trust have produced, in the year 1857, 469,067,000 cubic feet of gas; of which 185,810,000 cubic feet were made at the works in the First Ward, 173,279,000 in Ninth Ward, and 109,978,000 in Fifteenth Ward.

The whole quantity that has been made under the Trust, from its commencement, is over thirty-one hundred million cubic feet; or, in exact figures, 3,198,088,000. The increase of production over the previous year is over thirty-four millions, or nearly 8 per cent.

The materials used in making gas in the several factories, are as shown in the annexed tabular statements:

	1st Ward. Tons.	9th Ward. Tons.	15th Ward. Tons.	Total. Tons.
Coal in store January 1st, 1857,	11,448	16,288	345	28,081
" bought in 1857, - -	18,841	8,076	12,111	39,028
	30,289	24,364	12,456	67,109
Coal carbonized in 1857, -	17,949	17,950	11,737	47,636
Allowance for three years waste,			235	235
Coal in store January 1st, 1858,	12,340	6,414	484	19,238
	30,289	24,364	12,456	67,109
	Bush.	Bush.	Bush.	Bush.
Coke on hand January 1st, 1857,	180,000	5,000	25,000	210,000
" made in 1857, - -	557,458	664,952	419,256	1,641,666
	737,458	669,952	444,256	1,851,666
Coke used under retorts in 1857,	242,744	370,501	268,358	881,603
" " in office, yards, &c.,	65,957	12,680	4,450	83,087
" sold, - - - - -	197,757	261,608	167,483	626,848
" stock on hand Jan. 1, 1858,	231,000	25,163	3,965	260,128
	737,458	669,952	444,256	1,851,666

There has also been used 128,930 bushels of lime in purifiers, and 1,717 cords of wood.

The maximum number of retorts continuously in use at the works in First Ward, was 126; in Ninth Ward, 162; and in the Fifteenth Ward, 99. The average being, in the First Ward, 85¾; in the Ninth Ward, 104½; and in the Fifteenth Ward, 75½. The greatest number at work at one and the same time, in all these works, being 384.

The largest daily average yield of each retort in the year was:

7,200	feet	at the	works	in First Ward.
5,700	"	"	"	Ninth Ward.
4,668	"	"	"	Fifteenth Ward.

The largest quantity from each pound of coal respectively made for any full day's work:

4.83	feet	at the	works	in First Ward.
4.64	"	"	"	Ninth Ward.
4.60	"	"	"	Fifteenth Ward.

The number of meters and service pipes put in at new places, has been:

In the wards comprising the Old City, - - -	297
" " " Spring Garden and Penn,	321
" " " Moyamensing, - - -	70
" Twenty-third Ward, - - - - -	15
" Twenty-fourth Ward, - - - - -	31
	734

Making a total of meters and services set during the year 1857, seven hundred and thirty-four; and the whole number now in use, twenty-five thousand one hundred and eighty.

The number of applications registered during the year, has been:

In the Old City, including Moyamensing, - -	3,215
In Spring Garden and Penn, - - - -	1,999
In Twenty-third Ward, - - - - -	76
In Twenty-fourth Ward, - - - - -	214
In all, - - - - - - - -	5,504

Deducting from these, the removals and discontinuances, amounting to 4,744, and adding the number of previous consumers, shows the whole number of gas consumers, at the present time on the books of the Trust, to be 26,304.

The lights added during the year, are as follows:

Old City, - - - - - -	10,210
Spring Garden and Penn, - - -	5,614
Moyamensing, - - - - - -	687
Twenty-fourth Ward, - - - -	535
Previously in use, - - - -	315,441
Total, - - - - -	332,487

The public lamps now in use, amount, in all the wards supplied from these works, to 3,810; adding these to 18,442 private lights supplied through the pipes of the Southwark Gas Company, and 5,963 private lights supplied through the pipes of the Germantown Gas Company, makes the aggregate of 357,729 lights receiving gas from these works.

In the Twenty-third Ward there are 2,973 private, and 57 public lights supplied with gas from the Northern Liberties Gas Company.

The length of street mains laid during the year, has been 2,683 feet, and the entire length of mains belonging to the Trust, is 1,134,904 feet, or nearly 215 miles.

In pursuance of the directions of the Board, the extension of the street mains and service pipes was suspended early in the spring, except in those cases where the applications had been registered at the office prior to the resolution of the Board, and in such others as the parties were desirous of having the work done at their individual expense.

The additions in this department have consequently been small in comparison with former years; a state of things that must continue until Councils shall have taken action on the subject. All new work of construction, in other departments, was also brought to a close as early as was practicable, without detriment to the works; as soon as the few outstanding bills are settled, the construction account will be virtually closed.

This pause in the growth of the works, marks one of the stages of progress, at which it may be useful to take a brief but

comprehensive view of their extent and condition of effective capacity, and by collating these, with the outlay of capital, obtain a scale or standard by which a fair comparison may be drawn between these and other Gas Works, in those important particulars.

An additional reason in favor of such a review at the present time, may be derived from a question raised in Councils a few months since, as to the relative economy manifested in the construction and conduct of the City Works, in comparison with a neighboring establishment, the management of which had been pronounced to be in accordance with the economical principles that prevail in the affairs of individual capitalists.

A series of interrogatories propounded for the solution of the above questions, required for their full and accurate answer a careful examination and dissection of accounts, extending through many years.

By using the results of this laborious investigation for our present purpose, they can be recorded in a shape that will make them accessible and available for similar comparisons with any other works in the country.

The statistics thus compiled, will be found further on in this report, collated in such way as to present their relations in various essential points.

The only important additions to the buildings and apparatus during the past year, have been the erection of the permanent machinery for supplying the works in First Ward, and the families there resident, with water, the fitting-up of the several tenements, so as to accommodate an increased number of families of the workmen, and the extension of the railway tracks at Ninth Ward, for the more convenient reception of the supply of coals.

In the regular operations of the factories, nothing has occurred requiring special notice; the results in all departments having been almost identical with those before reported.

The large gas-holder has given further proof of the good qualities described last year, having undergone the test of several storms of great violence, when raised to its utmost height, and presenting an elevation of over ninety feet, to the action of the gale. Its great utility, as a controlable regulator

of supply to the street mains, is shown by the indications of the local pressure registers, which exhibit a steady maintenance of the appointed pressure, during the hours of maximum consumption at points many miles distant from the works.

From the open retort settings described last year, like favorable results have been obtained, and preparations are making to extend their use throughout the First Ward Works.

The cellular retorts, for producing gas from vegetable materials, have in like manner been successfully worked throughout the year; confirming the opinion heretofore given respecting their profitable use. An opinion now based upon a practical trial continued through three years, with a production of nearly thirty millions cubic feet of gas.

After this lengthened experience in the use of this apparatus, it can no longer be regarded as an experiment; the profits arising from it have more than repaid its cost twice over, and the important commercial advantages contingent upon its possession, are such as to make its continuance a measure of wise policy.

A few days after the publication of the last Annual Report, the line of electric telegraph connecting the various stations and offices, was put in operation, and has since been in constant use as part of the essential machinery of the works, realizing in full measure all the advantages anticipated from its adoption. In addition to these, it has also served as a medium of connection with the principal police stations; whereby the two departments, in both of which unceasing vigilance by night, as well as by day, are necessary, have been enabled to render mutual services, highly beneficial to both.

For the prompt courtesy with which every needful facility has been afforded in this connection, acknowledgments are due to the Mayor of the City and his officers, as also to the intelligent Superintendent of the Police Telegraph, and the officers in his department.

Before proceeding to compare the rates of cost and value of the City Gas Works with those of the Northern Liberties Works, I may be allowed to state, that such comparison has not been instituted voluntarily on my part; but having been attempted by others, and strongly insisted on, as a proper test of the rela-

tive economy exhibited in private and public works, it became a duty not to be disregarded, to follow up the comparison to such extent as would elicit the whole truth, and secure equal justice to all parties. The data used in forming the scale of relative cost and value, are all susceptible of proof by reference to the official records of the two establishments, and most of them are matters of public record, being from the same sources as those given in the recent report of the Committee of Councils.*

In the annual reports to Councils, the statements of expenditures do not give the cost of the several parts of the factory and gas store-room as separate items, but include the whole of these departments in one sum. For this reason, their value for collation must be stated in such manner as will represent the whole in one combined term. This can be done approximately by adding together the cubic feet of their capacity for daily manufacture of purified gas, and the cubic feet of store room.

A comparison will first be made between these items of value and cost, for the new works in the First Ward; next for those of Northern Liberties, and afterwards between the same items for the entire City Works.

As the various parts of the City Works have been fully described in previous reports, it is unnecessary to repeat that description here, a simple statement of those dimensions which measure their useful capacity, being all that is required for a comparison between their effective value and cost. The dimensions and capacity essential for this purpose, are those of the retort-house, the purifying apparatus, the station meters, and the gas-holders. The first two constitute the factory proper, and the last are indispensable adjuncts.

Beside these, are various other parts, not absolutely necessary, but highly important as auxiliaries, which add to the value and economy of the results. In First Ward, the cubic dimensions of the retort-house are 550,000 feet, containing two benches, in each of which are twenty-four beds of large retorts,

* Those for the Northern Liberties Works, are necessarily limited to their reports in 1856, as that is the period at which they have furnished the only recently recorded inventory of the dimensions and quantity of their apparatus. For the City Works, the statements are brought down to the close of the past year.

from which has been obtained 25,000 cubic feet of gas per day per bed, making 600,000 to the bench, or 1,200,000 per day if all were in operation. The daily capacity is taken at 1,000,000 cubic feet.

The purifying apparatus is in a building whose cubical content is 200,000 feet. There are twelve dry lime boxes, whose joint area is 1,500 square feet, giving, with three layers of lime, 4,500 feet of lime surface; and eight wet lime cylinders, with 1,300 feet of cubic capacity.

As it is known from practical experience, that with gas from good coals of average purity, each square foot of lime surface contained in the ordinary quadruple series of dry lime boxes, will suffice for the purification of ten cubic feet per hour, the capacity of the above is equal to 45,000 feet of gas per hour, or 1,080,000 feet per day.

The wet lime cylinders add considerably to the efficiency of the apparatus, but as this addition is not more than is often needed by the occasional increased impurity of coals, the safe practical limit to their entire capacity is 1,000,000 feet per day.*

The gas-holder is a little over 160 feet in outer diameter, and 94 feet total height of the two sections, containing 1,800,000 cubic feet: the sum of daily make and storage being 2,800,000 cubic feet. The entire cost of these structures, completed and in operation, including workshops and other out-buildings, and all incidentals, and the repairs of damages by storms and accidents, has been $390,064.45, which is equal to $13\frac{9}{10}$ cents per cubic foot of the joint amount of daily manufacturing capacity and storage.

The remaining parts of the new works now to be described, are not absolutely necessary for carrying on gas making operations, as are the foregoing, but, as before stated, they are important auxiliaries, some of which should be provided in every well managed establishment, and all highly useful at the First Ward station. They comprise the coal stores and their railways and

* At the Ninth Ward station, there being no wet lime purifiers, a much larger allowance of dry lime surface has been provided; the ratio being one square foot of lime surface to five feet of gas per hour, which is found sometimes to be necessary to guard against the occasional impurities of the coal.

machinery; the wharves for landing coals and other materials; the pumping machinery and water pipes, for raising and distributing this important element over the entire premises; the pneumatic exhausters, the lime kiln and the large tanks for storage of tar; cars and carts and tools of various kinds, and the fencing and grading and sewerage of the property.

In proof of the usefulness of some of these improvements, there is no need of argument; the wharves and the water works are almost indispensable, for without them, there would exist embarrassments well nigh insurmountable. The coals, if not stored under cover, would be saturated in winter with water and ice, whereby much of the best parts of the gas would be destroyed.

To avoid this serious loss, store-houses of great extent have been provided at both the old and the new works, sufficient to store the entire winter's supply of coals; the whole area of roofing being nearly three acres. At the old works, the original arrangements were made without any adequate knowledge of the vast magnitude they were to reach, and the coal stores have consequently been driven so far off, as to be very inconvenient; the coals have to be carted into them and trimmed by hand, and when wanted for use, must be again loaded into carts and hauled a quarter of a mile to the retort-house, where they are once more shoveled into charging trucks, before weighing.

At the new works, the plans are laid out so that whatever the magnitude, within any reasonable probability, the coal stores may be located close to the retort-houses; the coals loaded in iron cars, being raised by a hydraulic hoister to a railway at the top of the store, from which they drop into a self-trimmed pile, filling the store completely to the roof. An important saving of expense arises from thus avoiding all intermediate handlings of the coal after it has been delivered into cars upon the wharf, and all carting to and from the stores: the latter being so near the retort-house, as to allow the charging trucks to be run directly to the coal pile.

As the use and advantages of the pneumatic exhausters have been described in a former report, nothing need be added respecting them, further than to state, that they perform quite satisfactorily their intended function of saving a considerable

quantity of gas that would be lost by leakage, and carbonaceous deposit in the retorts. On several occasions, when the exhausters have been stopped for adjustment and repair, opportunities have been afforded to test their efficiency in these respects. The making and transmission of gas has proceeded without interruption on these occasions, but the yield of gas from the coals was perceptibly diminished. The cost of all these portions of the works, with all incidentals, and also including the sums expended in repairing and fitting up old tenements for the accommodation of eight families, has been $129,108.80. Adding this to the amount before stated, as the cost of the factory and gas-holder, shows the entire cost of all the improvements at the First Ward Works, to be $519,173.25, which is equal to 18½ cents per foot of their combined capacity of maximum daily make and store-room.

Several of the items of these expenditures belong as much to the future extension of these works as to the present; to this class belong the wharves, the water machinery and pipes, the grading and the sewerage; but as their completion at this time was important and almost necessary, their cost is properly chargeable to the existing works.

Measuring in like manner the several parts of the Northern Liberties Gas Works, as existing when the inventory was furnished for the Committee of Councils, we find the cubic dimensions of their retort houses to be 130,000 feet, or a little more than one-fourth those of the First Ward, containing 29 beds capable of making 10,000 feet of gas each, per day, or 290,000 feet if all were in action. The purifying apparatus is in a building of 25,000 cubic feet content, and consists of four dry lime boxes, whose joint area is 241½ square feet, giving, with three layers of lime, 724½ feet of lime surface, which, at the usual allowance of 10 feet of gas per hour for each square foot of lime surface, is competent to purify as a maximum, 7,245 feet per hour, or 174,000 cubic feet per day, if coals of good quality were used. With impure coals the quantity that could be properly purified must be much less.

Of the number or size of station meters, no account is given in the inventory; but it may be supposed that these, and the workshops and other outbuildings, are suitably proportioned to the parts described.

For the capacity of the factory, the limit in practice will be found in the extent of the purifiers, for no well managed works will venture for any time to send out more gas than can be purified, as such wholesale poisoning would subject the parties to severe legal penalties.

But for a computation of *cost*, a quantity representing the mean of the capacity of retorts and purifiers might be admissable. In the present case, that would be a mean between 290,000 cubic feet and 174,000, which is equal to 234,000 cubic feet. As, however, in the interviews for negotiating the sale of their works, the Trustees claimed for them a capacity for making 300,000 feet per day, that quantity has been admitted into the comparison. Their gas-holders are shown, by the statement of their dimensions in the inventory, to contain 340,000 cubic feet; making the joint amount of the capacity for make and storage 640,000 cubic feet. The cost of which, as stated in their previous annual report, was $161,396.19, or 25 cents per foot.

From the foregoing statements are derived the following comparative results:

The works in First Ward, without the extraordinary structures and preparations for future extensions, have cost, per cubic foot of joint capacity for making and storing gas, not quite 14 cents; with all these added, 18½ cents.

The Northern Liberties Works, with insufficient means for purification, cost 25 cents.

It has been stated that, since the publication of the report of the Committee of Councils, the Trustees of the Northern Liberties Gas Works claim to have, at this time, a capacity for making 400,000 feet of gas per day. Should there have been such addition to their apparatus as will give this capacity, there must have been an increase of expenditure, which will be shown in their next annual report, and will give a ratio of cost and capacity not differing materially from that above shown.*

* The annual report of the Northern Liberties Gas Works, to January, 1858, published since the above comparison was made, states the capacity of daily make to be 400,000 cubic feet, and the entire expenditure on account of Works to be $172,311.67. Computing their relations as before, shows their outlay for Works to be, at this time, 28½ cents per cubic foot of joint capacity of daily make and storage.

The older City Works, of Ninth and Fifteenth Ward Stations, comprise four retort houses, of which the united capacity for making gas, as found by actual working, is equal to 1,700,000 cubic feet per day.

The cubic content of the purifying houses is 300,000 feet, containing 28 dry lime boxes, with an aggregate lime surface of 14,000 square feet; sufficing, at the ratio of 10 feet of gas per hour for each foot of lime surface, for purifying 140,000 cubic feet per hour, or 3,360,000 feet per day. Their united storage room is 2,200,000 cubic feet. Leaving out of the account the super-abundant purifying surface, there remains a joint capacity of storage and daily make equal to 3,900,000 cubic feet, at a cost of $834,623.12, or 21½ cents per foot, which sums, added to those representing the First Ward Works, makes a total joint capacity of 6,700,000 feet at all the stations; the whole expenditure on which has been $1,353,796.37 or 20½ cents per cubic foot.

Should the effective capacity of manufacture be rated according to the ability to furnish *pure* gas, it will be perceived that the City Works, claiming 10½ times the capacity, with a cost 8½ times that of the others, have, in this most important respect, over 25 times their effective capacity.

In the outside departments of street mains, and services and meters, the comparison can be made in brief space, the details being given at large in the several reports.

In the City Works, the aggregate weight of street mains is 13,115 tons, their whole cubic content being 185,500 cubic feet, which is equal to 2,115,000 lineal feet of four inch pipe. The cost of these mains has been $824,088.09, which is equal to $62.92 per ton, or $4.45 per cubic foot of content, or about 40 cents per lineal foot, if reduced to four inch.

The meters set have an aggregate capacity of 150,911 lights, being equal to 15,091 ten-light meters; and have cost $277,410.60 when set, or at the rate of $18.50 for a ten-light meter.

The number of services introduced is 25,180, averaging about ⅞ inch; their cost has been $221,801.09 or $8.80 a piece. In the Northern Liberties, the street mains reported in their inventory, had an aggregate weight of 742 tons; their

whole cubic content being 6,840 cubic feet, which is equal to nearly 78,000 feet of four inch pipe. Their cost was $53,123.15, or at the rate of $71.50 per ton, or $7.76 per cubic foot of content, or 68 cents per lineal foot reduced to four inch.

The meters reported were of an aggregate capacity of 10,111 lights, equivalent to 1,011 ten-light meters, and cost $27,341.22 when set, or at the rate of $27.06 for a ten-light meter.

The number of services introduced was 2,427, averaging about ¾ inch; their cost was $33,307.50, or $13.72 a piece.*

As figures properly applied generally tell their own story, there is no need of adding argument to mathematical demonstration. From the foregoing figures, it will be perceived that if the works and pipes of the Northern Liberties Gas Company have been constructed with due regard to economy, a proposition which is not denied, the same claim cannot be denied to the City Works, in which a much greater effective capacity and quantity of material has been obtained with less than a corresponding increase of expenditure.

In the First Ward the cost of construction was considerably increased by the want of suitable residences for the workmen, within convenient distance, and the same difficulty still exists. Only a few families can yet be accommodated near the works, and the men employed must, consequently, lose much time in going to and from their work, or must be conveyed at the expense of the Gas Works.

Annexed are the usual tabulated statistics, exhibiting the history of the establishment for each year since its foundation.

Respectfully,

JOHN C. CRESSON,
Engineer.

PHILADELPHIA GAS WORKS,
January, 1858.

* In the cost of the several works, no account is taken of the price paid for land, nor for the public lamps furnished to the City free of cost. By adding these to the amounts given above, the whole cost of each establishment will be found to correspond with the aggregates reported to Councils.

REPORT OF THE CASHIER.

To the Trustees of the Philadelphia Gas Works:

GENTLEMEN:—In submitting the statements connected with the financial department of the Gas Works, the Cashier has the pleasure of congratulating the Trustees on the prosperous result of the operations of the past year.

By the tables herewith appended, it will be shown that the receipts from the sales of gas, coke, tar, lime and other materials, rents, &c., have amounted, in cash and warrants on the City Treasurer, to $1,014,492.52, and that the profit realized from these sales, and charged to their respective accounts, as required by the several ordinances of Councils, under which the Trust acts, has been:

Amount carried to the Contingent Fund, - -	$6,049 24
Increase of the suspended debt, - - - -	6,292 13
Interest on Gas Loans, paid to the loan-holders at this office, - - - - - - - - -	80,950 00
Interest on Gas Loan, paid to the City Treasurer, -	27,222 00
Appropriated to the Sinking Fund, - - -	53,124 00
Eight per cent. on $450,000 paid to the City Treasurer, for the redemption of so much of the City debt, &c., - - - - - - - - - -	36,000 00
	$209,637 37

The reports of the President and Engineer are so comprehensive, that any further detail on my part would be but a recapitulation of their statements. It is much to be regretted that the want of capital prevents us from furnishing service pipes and meters to those who wish to introduce gas agreeably to the published "Terms" of the Trustees. Hundreds of our

citizens are awaiting some action of Councils, by which this capital can be provided. When we consider the profit to be derived from additional custom; that the principal and interest of any loan for the purpose will be realized from such profit, and will in no way be a burthen to the City, but, on the contrary, be additional wealth to come into its possession when the loans are paid off, we must hope that there will be no further delay in granting, in some shape, the funds required.

I have the honor to be your most obedient servant,

WM. FENNELL, *Cashier.*

CASH ACCOUNT.

DR.

Balance January 1st, 1857, - - - -		$68,140 62
RECEIPTS IN 1857.		
For sales of gas rec'd at this office,	$757,960 89	
" " " Spring Garden,	134,962 80	
" " " Frankford,	6,119 71	
		899,043 40
For sales of coke, tar, &c., received at this office, - - - - - -	40,290 40	
For sales of coke, tar, &c., received at Spring Garden, - - - - -	11,454 25	
		51,744 65
For rents at Frankford, - - - - - -		265 00
City warrants, - - - - - - -		64 01
Interest on Loan 9, held for Sinking Fund,		8,520 00
" City loans, " "		2,918 00
Sales of Loan 9, - - - - - -		56,100 00
Certificates of City loans, paid, - -		2,200 00
Temporary loans, - - - - - -		310,000 00
Main pipes, service pipes and meters at this office, - -	$16,616 82	
Main pipes, service pipes and meters at Spring Garden, - -	8,468 54	
Main pipes, service pipes and meters at Frankford, - - -	305 40	
		25,390 76
		$1,424,386 44

CR.

PAYMENTS IN 1857.

For the construction and enlargement of the works,	$62,976 58
Extension of the street mains, - - -	17,469 82
Service pipes and meters, - - - -	61,037 87
Coal and other materials used in the manufacture of gas, wages of workmen, &c., -	594,067 34
Amount carried forward,	$735,551 61

Amount brought forward,		$735,551 61
For repairs of the works, street mains, &c.,		112,677 57
Incidental expenses,		92,733 90
Salaries of the Engineer, Cashier and Registrar,		7,124 98
Temporary loans,		288,711 15
Interest on temporary loans,		3,423 33
Discount on warrants on City Treasurer,		2,723 41
" Sale of Loan 9,		32 35
Interest on loans,		49,545 10
Investments for the Sinking Fund,		32,719 42
City Treasurer, for interest on amount issued of Loan 9,	$27,222 00	
Eight per cent. on $450,000, as directed per Ordinance of March 20, 1855,	36,000 00	
		63,222 00
Balance on hand,		35,921 62
		$1,424,386 44

STATE OF THE WORKS, JANUARY, 1 1858.

ASSETS.

Works,	$1,177,796 37
Street mains,	654,088 09
Service pipes and meters,	395,211 69
Public lamps,	11,814 02
Cash,	35,921 62
Suspended debt,	17,342 01
Stocks belonging to the Sinking Fund,	735,961 05
Coal on hand,	136,582 70
Coke on hand,	10,405 28
Rosin on hand,	3,062 40
Wood on hand,	100 00
Materials for repairs,	10,000 00
Amount carried forward,	$3,188,285 23



Amount brought forward,	**$3,188,285 23**
Due for gas sold, delivered and on hand, -	153,494 40
Due for coke, tar &c., - - - - - -	7,000 00
Interest on City loans, due January 1, 1858, -	1,554 00
Wharf lot on the Schuylkill, - - - -	6,000 00
Site of the new works, - - - - -	36,957 69
Spring Garden Gas Works, - - - -	300,000 00
Moyamensing do. - - - - -	80,000 00
West Philadelphia do. - - - - -	50,000 00
Frankford do. - - - - -	20,000 00
Stocks belonging to the Sinking Fund, in the hands of the City Treasurer, as per ordinance of March 20, 1855, - - - - - -	29,328 00
City warrants, - - - - - - - -	63,375 46
	$3,935,994 78

LIABILITIES.

Loans 1, 2, 3, 4, 5, 6, 7 and 8,	$1,370,000 00	
Loan 9, - - - - - -	466,300 00	
		$1,836,300 00
Dividends unpaid, - - - - - - -		405 00
Interest on gas loans, including that due January 1, 1858, - - - - - - - - -		30,054 35
For coals, repairs and materials used in the manufacture of gas, - - - - - - -		232,117 86
Sinking Fund, - - - - - - - -		890,920 70
Sinking Fund, for the redemption, &c., - -		29,328 00
Contingent Fund, - - - - - - -		384,526 86
Profit and loss, (amount of suspended debt,) -		17,342 01
City of Philadelphia, for works taken, as per ordinance of March 20, 1855, - - - -		450,000 00
Temporary loans, - - - - - - -		65,000 00
		$3,935,994 78

STATEMENT OF THE SINKING FUND.

1857.		
January 1.	Amount of the Sinking Fund, - -	$797,290 70
June 30.	6 months' interest on $402,800, gas loans, at 6 per cent., - - -	12,084 00
	6 months' interest on $93,900, gas loans, at 5 per cent., - - -	2,347 50
	6 months' interest on $9,300, city loans, at 6 per cent., - - -	279 00
	6 months' interest on $51,000, city loans, at 5 per cent., - - -	1,275 00
	6 months' interest on $142,000, the amount taken for this Fund in the 6 per cent. gas loan, No. 9, issued by the City Treasurer, - -	4,260 00
	6 months' appropriation of 2 per cent. per annum, on $475,000, Loans 1, 2 and 3, - - - - - -	4,750 00
	3 per cent. per annum on $125,000, Loan 4, - - - - - -	1,875 00
	4 per cent. per annum on $770,000, Loans 5, 6, 7 and 8, - -	15,400 00
	2 per cent. per annum on $441,100, Loan 9, - - - - - -	4,411 00
Dec. 31.	6 months' interest on $403,100, gas loans, at 6 per cent., - - -	12,093 00
	6 months' interest on $93,900, gas loans, at 5 per cent., - - -	2,347 50
	6 months' interest on $10,300, city loans, at 6 per cent., - - -	309 00
	6 months' interest on $49,800, city loans, at 5 per cent., - - -	1,245 00
	6 months' interest on $142,200, the amount taken for this Fund, in the 6 per cent. gas loan, No. 9, issued by the City Treasurer, - -	4,266 00
	6 months' appropriation of 2 per cent. per annum, on $475,000, Loans 1, 2 and 3, - - - - - -	4,750 00
	Amount carried forward,	$868,982 70

1857.	Amount brought forward,		$868,982 70
December 31.	3 per cent. per annum on $125,000, Loan 4, - - - - - -		1,875 00
	4 per cent. per annum on $770,000, Loans 5, 6, 7 and 8, - -		15,400 00
	2 per cent. per annum on $466,300, Loan 9, - - - - - -		4,663 00
			$890,920 70

The amount invested is as follows:

1857.			
Jan'y 1.	Cost of investments at this date, - -		$705,441 63
" 23.	Bought certificate of city six per cent. loan, for $1,000, redeemable in 1860, cost, - - - - - - - -		853 92
March 13.	Bought certificate of city five per cent. loan, redeemable in 1860, for $5,000, cost, - - - - - - - -		4,437 50
" 27.	Bought certificate of five per cent. city loan, redeemable in 1865, for $500		
	Certificate of six per cent. city loan, redeemable in 1861, for 500		
	Certificate of five per cent. city loan, redeemable in 1860, for 500		
		$1,500 Cost,	1,345 00
March 31.	Bought certificate of city five per cent. loan, redeemable in 1862, for $1,000, cost, - - - - - - - -		852 50
July 10.	Bought certificate of city six per cent. loan, redeemable in 1876, for $1,000		
	Certificate of six per cent. gas loan, redeemable in 1885, - 200		
		$1,200 Cost,	1,083 00
Dec. 11.	Bought certificate of six per cent. gas loan, redeemable in 1863, $200, cost,		185 50
	Bought certificate of six per cent. gas loan, redeemable 1863, $100, cost,		92 00
	Amount carried forward,		$714,291 05

1857.	Amount brought forward,		$714,291 05
Dec. 31.	Bought certificate of six per cent. city loan, redeemable 1888, for -	$8,000	
	" 1864, - -	2,000	
	" 1886, - -	18,000	
		$28,000 Cost,	23,870 00
			$738,161 05
Jan'y 23.	Received for certificate of city loan, which became due 1st inst.,	$1,000	
Jan'y 10.	Received for certificate of city loan, which became due 1st inst.,	1,200	
			2,200 00
			$735,961 05
	Balance not invested, - - -		154,959 65
			$890,920 70

STATEMENT OF THE SINKING FUND,

Directed to be accumulated and applied by the City Treasurer, as per ordinance of March 20th, 1855, for the redemption of $450,000, the estimated value of the Spring Garden, Moyamensing, West Philadelphia and Frankford Gas Works, placed in charge of the Trustees by said ordinance.

1857.			
Jan'y 1.	Amount not invested, - - - -		$4,917 50
June 30.	Cash paid City Treasurer for said fund,		4,500 00
	Interest on city loans, held for said fund,		618 00
Dec. 31.	Cash paid City Treasurer for said fund,		4,500 00
	Interest on city loans, held for said fund,		810 00
			$15,345 50
May 16.	By investment in city loans, $5,300, six per cents, cost	$4,836 25	
Nov. 2.	6,400, " " "	5,120 00	
			9,956 25
	Amount not invested, - - -		$5,389 25



Aggregate of investments for this fund $27,000, in certificates of six per cent. city loan, cost, . - - - - -		$23,938 75
Balance not invested, - - -		5,389 25
		$29,328 00

CITY AND GAS LOANS BELONGING TO THE SINKING FUND, JANUARY 1, 1858.

Five per cent. loans:			
Redeemable in 1858,	-	$7,100	
1859,	-	4,000	
1860,	-	6,500	
1861,	-	1,100	
1862,	-	2,000	
1865,	-	500	
1867,	-	3,900	
1870,	-	9,700	
1871,	-	5,200	
1872,	-	7,300	
1873,	-	2,200	
1874,	-	300	
			$49,800 00
Six per cent. city loans:			
Redeemable in 1861,	-	500	
1864,	-	2,000	
1876,	-	7,600	
1881,	-	600	
1886,	-	18,000	
1888,	-	8,300	
1889,	-	1,300	
			38,300 00
Six per cent. gas loans:			
No. 1, redeemable in 1862,	-	11,200	
" 2, " 1863,	-	57,600	
" 3, " 1861,	-	32,100	
" 5, " 1868,	-	36,100	
Amount carried forward,		$137,000	$88,100 00

Amount brought forward,	$137,000	$88,100	00
No. 6, redeemable in 1869,	14,100		
" 7, " 1870,	66,100		
" 8, " 1872,	185,900		
		403,100	00
Five per cent. gas loan, No. 4, redeemable in 1866,		93,900	00
Six per cent. gas loan, No. 9, issued by the City Treasurer, redeemable in 1885,		142,200	00
		727,300	00
The cost of the above was,		$735,961	05

STATEMENT OF THE PROFIT AND LOSS ACCOUNT FOR 1857.

1857.			
January 1.	Amount of stock of coals, &c., on hand and debts due to the works at this time,	$279,310	63
Dec. 31.	Sales of gas in 1857,	962,482	87
	Sales of coke, lime, tar, &c.,	51,744	65
	Rents of house at Frankford,	265	00
	Stock of coal on hand,	136,582	70
	" of coke,	10,405	28
	" of rosin,	3,062	40
	" of wood,	100	00
	" of materials for repairs,	10,000	00
	Due for coke, lime, tar, &c.,	7,000	00
	Due for gas,	153,494	40
	Suspended debt,	17,342	01
		$1,631,789	94
January 1.	Amount of stock on hand, and debts due to the works at this time,	$366,201	95
Dec. 31.	Payments for the manufacture of gas, coal, and other materials and wages, including the cost of public lighting,	594,067	34
	Amount carried forward,	$960,269	29

1857.	Amount brought forward,		$960,269 29
Dec. 31.	Repairs of the works, street mains, meters, service pipes, &c., - -		112,677 57
	Incidental charges, including salaries of officers and clerks, - - -		99,858 88
	Interest on temporary loans, - -		3,423 33
	Discount on city warrants sold, - -		2,723 41
	Discount on Loan 9, - - -		32 35
	Due for coals, repairs and materials, used in the manufacture of gas, and for the public lighting, - -		232,117 86
	Suspended debt, January 1st, 1857, -		11,049 88
			$1,422,152 57
	Balance, being profits of the year,		209,637 37
			$1,631,789 94
	Profits for the year 1857, - - - -		$209,637 37

From the profits there have been the following appropriations:

For interest on gas loans, payable at the office of the Trustees, - - - - - - -	$80,950 00
For interest on gas Loan 9, payable at the City Treasury, - - - - - - - - -	27,222 00
For the Sinking Fund of all the gas loans, as directed by ordinances, - - - - - -	53,124 00
Eight per cent. on $450,000 of city debt, paid to City Treasurer, per ordinance March 20, 1855,	36,000 00
Balance beyond the interest on loans, city debt, and appropriation to the Sinking Fund, -	12,341 37
	$209,637 37

Note.—The above balance of - $12,341 37
Less the sum of - - 6,292 13
Being the increase of the suspended debt during the year 1857, leaves the sum of - - - - - - $6,049 24
for the increase of the Contingent Fund.

STATEMENT OF THE CONTINGENT FUND FOR 1857.

Amount of the Fund, January 1, 1857, - -	$378,477 62
Increase during the year, as per the profit and loss account, - - - - - - - - -	6,049 24
	$384,526 86

The amount raised under various ordinances for the construction and enlargement of the works, and for extraordinary repairs and renewals, and for working capital, has been to January 1st, 1858:

Loans 1, 2, 3, 4, 5, 6, 7 and 8,	$1,370,000	
Loan 9, sold, - - -	466,300	
		$1,836,300 00
City of Philadelphia for works, per ordinance of March 20th, 1855, - - - - - -		450,000 00
Contingent Fund, derived from profits, - -		384,526 86
		$2,670,826 86

The amount expended has been:

Construction of works, - - - -	$1,177,796 37
Street mains, - - - - - - -	654,088 09
Service pipes and meters, - - - -	395,211 69
Public lamps, - - - - - -	11,814 02
Wharf lot on the Schuylkill, - - - -	6,000 00
Site of the new Gas Works, - - - -	36,957 69
Spring Garden " - - - -	300,000 00
Moyamensing " - - - -	80,000 00
West Philadelphia " - - - -	50,000 00
Frankford " - - - -	20,000 00
	$2,731,867 86

The liabilities of the works, January 1, 1858, are as follows:

Construction of the works, street mains, service pipes and meters, - - - - - -	$9,013 49
Coals, repairs, and materials used in the manufacture of gas, - - - - - - -	232,117 86
	$241,131 35

WORKS.			STREET MAINS.			SERVICES.		
	Dolls.	*C.*		*Dolls.*	*C.*		*Dolls.*	*C.*
Wages of laborers and mechanics employed in erecting new works,	15,689	99	Wages of men employed in laying mains,	3,310	23	Wages of men engaged in laying pipes & setting & fitting up meters,	18,961	38
Castings,	14,958	16	Pipe,	10,157	16	Meters,	27,739	46
Lumber,	5,980	90	Paving,	2,036	81	Tubing,	7,152	64
Bricks,	2,987	65	Castings & Iron,	777	89	Stop cocks,	5,013	21
Pumping Engines,	3,200	00	Lumber,	539	66	Paving,	1,940	34
Mason work and plastering,	2,644	88	Lead,	220	07	Meter covers,	1,851	32
Exhausters,	2,485	00	Ship Chandlery,	155	88	Lumber,	1,110	87
Telegraph,	2,078	40	Carting,	134	05	Lead pipe,	1,093	57
Coal Wagons,	2,013	21	Shovels,	96	95	Hardware, nails and iron,	327	18
Carting,	1,882	86	Pick Handles,	26	06	Tin & copper,	195	20
Wharf,	1,350	00	Turning,	15	06	Meters paid for and returned,	168	77
Hose,	1,327	96				Bricks,	149	31
Paints, Oils, &c.,	1,198	00				Pumps and hose,	92	55
Iron,	935	58				Lead,	84	37
Pumps and Valves,	855	75				Whitelead,	42	87
Stone,	854	50				Carting,	41	25
Hardware,	589	62				Fittings,	38	11
Roofing,	471	30				Meter plyers,	18	00
Meters,	244	00				Taps and dies,	17	47
Turbine Wheels,	220	00						
Stop-Cocks,	204	00						
Lime,	145	40						
Office Instruments,	119	25						
Gas Fixtures,	119	00						
Leather,	89	32						
Plumber's work,	64	96						
Pressure Registers,	55	00						
Tin and Smith work,	49	41						
Rope,	42	45						
Measuring Stone,	33	52						
Wagon,	30	00						
Glass,	26	18						
Cement,	19	88						
Grindstone,	15	45						
Total,	62,976	58	Total,	17,469	82	Total,	61,037	87

GAS.			REPAIRS.			INCIDENTALS.		
	Dolls	C.		Dolls.	C.		Dolls.	C.
Wages of stokers and men employed in retort houses and purifying houses, manufacturing gas, and wheeling coke coals, &c.,	111,345	44	Wages of mechanics and laborers engaged in repairs of works, street mains and services,	32,414	67	Wages of clerks, men employed in inspection of fittings and meters, and taking statements for bills, storing coals and coke at works, measuring coke, tar, &c., and attending the public lamps,	104,666	45
Coals,	349,960	96	Castings,	47,350	20			
Gas b't.,	43,478	91	Bricks and tiles,	10,799	72			
Freight,	11,766	86	Lumber and carpentry,	4,195	10			
Carting, towing, and hoisting	11,053	08	Meters,	3,457	82			
Wood,	6,003	91	Lanterns and repairs,	2,190	47	Fluid, filling and trimming public lamps,	13,709	61
Oyster shells,	4,017	62	Carting,	1,651	67			
Lime,	182	13	Iron and nails,	1,510	41	Carting,	5,237	61
			Hardware and tools,	1,135	64	Rents, water and taxes,	4,686	51
			Paints, oils and chemicals,	1,112	88	Lamps and posts,	3,893	67
			Barrows & trucks,	1,002	24	Printing and stationery,	2,773	11
			Wheelwright work,	874	19	Alcohol,	2,274	96
			Pumps and hose,	852	92	Horse keep and hire,	1,960	67
			Gas holders,	700	00	Painting lanterns,	1,119	35
			Brooms and brushes,	685	67	Carriage hire, &c. for Board and Councils,	987	39
			Stop-cocks and tubing,	610	15	Paints, oils and chemicals,	850	11
			Barrels, buckets and baskets,	556	71	Barrels,	432	25
			Tin and copper work,	473	80	Hardware and tin work,	369	51
			Harness, leather and belting,	464	39	Subscription and advertising,	321	50
			Glazing & roofing,	392	97	Prof. services,	319	47
			Wharf,	365	79	Ship chandlery & groceries,	319	30
			Ship chandlery & canvas,	325	35	Matches for public lamps,	326	20
			Meter covers,	309	19	Bituminous coal,	308	52
			Mica, clay & sand,	307	08	Heaters,	261	20
			Paving in lamp department,	306	12	Plumbing in lamp department,	108	00
			Furniture and heaters,	304	84	Reports, lighting,	96	00
			Machine work,	292	79	Brushes,	65	12
			Rubber goods and paving,	261	54	Gas fixtures,	38	12
			Masonry and materials,	258	45	Ice,	18	67
			Burner covers and cleaners,	191	70	Straw,	10	00
			Scales and lamps,	168	25	Sundries,	908	58
			Drawing & trunk boards,	49	66			
			Cotton waste,	40	64			
Total,	537,808	91	Total,	115,613	02	Total,	146,056	88

CITY REGISTRY.

DATE.	Applications.	Removals and Discontinuances.	PRIVATE LIGHTS.		PUBLIC LIGHTS.		
1857.			Added.	Total.	Streets.	Market Houses.	Squares.
To Jan'y 1st,	53,054	28,845	130,966	315,441	3,272	76	85
January, -	352	295	3,103	318,544	8		
February, -	312	269	931	319,475	0		
March, - -	465	405	1,238	320,713	1		
April, - -	560	497	1,308	322,021	22		
May, - -	487	428	1,182	323,203	1		
June, - -	452	379	1,311	324,514	0		
July, - -	369	327	894	325,408	0		
August,- -	415	360	1,177	326,585	0		
September, -	606	515	1,860	328,445	12		
October, -	539	446	1,539	329,984	5		
November, -	492	424	1,225	331,209	19		
December, -	455	399	1,278	332,487	0		
Total, - -	5,504	4,744	17,046		68		
Br't down, -	53,054	28,845	130,966		3,272	76	85
Grand total,	58,558	33,589	148,012	332,487	3,340	76	85

Note.—An error in two of the outer wards, prior to consolidation, was corrected during the past year by the inspectors' census, and is set right in the headings of the table.

DATE.	Services Laid.	METERS SET.										PUBLIC LAMPS		
1857.		3 Light.	5 Light.	10 Light.	20 Light.	30 Light.	45 Light.	60 Light.	100 Light.	150 Light.	500 Light.	On Posts.	On Walls.	Market Houses
To January 1st,	24,446	12,368	7,867	2,883	864	195	110	41	63	1	4	2,593	255	76
January, - - -	62	24	16	12	8	1	0	1	0			8		
February, - - -	48	15	17	12	3	1	0	0	0			0		
March, - - - -	68	19	18	16	13	2	0	0	0			1		
April, - - - -	63	21	16	15	7	0	3	1	0			22		
May, - - - -	56	13	17	18	6	1	1	0	0			1		
June, - - - -	70	12	25	17	13	2	1	0	0			0		
July, - - - -	40	12	15	9	4	0	1	0	0			0		
August, - - -	53	15	17	13	8	0	0	0	0			0		
September, - -	88	28	27	22	8	3	0	0	0			11	1	
October, - - -	88	30	21	21	11	1	3	0	1			5		
November, - - -	42	6	17	12	7	0	0	0	0			19		
December, - - -	56	14	14	17	7	1	0	0	2			0		
Total, - - - -	734	209	220	184	95	12	9	2	3			67	1	
Brought down, -	24,446	12,368	7,867	2,883	864	195	110	41	63	1	4	2,593	255	
Grand Total, - -	25,180	12,577	8,087	3,067	959	207	119	43	66	1	4	2,660	256	76

DATE.	MAIN PIPE LAID IN STREETS, LINEAL FEET.										
1857.	1½ inch.	2 inch.	3 inch.	4 inch.	6 inch.	8 inch.	10 inch.	12 inch.	16 inch.	20 inch.	TOTAL.
To January 1st, - -		1,956	19,941	16,596	7,286	3,834	5			504	50,122
January, - - - - -											
February, - - - - -											
March, - - - - -						34					
April, - - - - -		33									
May, - - - - - -			358	250							
June, - - - - - -			153								
July, - - - - - -		102	207		117						
August, - - - - -			441								
September, - - - -			269								
October, - - - - -			218	39							
November, - - - -			108								
December, - - - -		228	90	36							
Total, - - - - - -		363	1,844	325	117	34					2,683

REPAIRS OF SERVICES.

1857.	STOP-COCKS RENEWED.	NEW COVERS FOR STOP-COCK BOXES.	SERVICES RENEWED.	NEW STOP-COCK BOXES.
January, . . .		8		5
February, . . .	8	5	1	4
March, . . .	8	9	1	78
April, ...	21	87	2	337
May, ...	11	61	4	94
June, ...	11	30	8	56
July, ...	13	34	5	104
August, . . .	6	68	7	47
September, . . .	11	12	5	62
October, . . .	9		4	23
November, . . .		17	4	31
December, . . .	6	12	4	16
Total, . . .	104	348	45	852

STATEMENT OF GAS

Paid for in each month of the year, made in the First, Ninth and Fifteenth Wards, being the amount of bills as per meters to the first of the month.

1857.	Feet of gas consumed at private houses.	Public Lamps.	Supplied to Southwark Gas Co.	SUPPLIED BY S. GARDEN GAS WORKS. Supplied to Germantown Gas Company.	Feet of gas consumed at private houses.	Public Lamps.	Total.
Jan.,	28.217,100		5,982,000	1,723,000	6,718,600		42.640 700
Feb.,	30.726,100				7,449,400		38.175,500
March.	32.435,900				6,978,100		39.414.000
April,	25.348.200		6,097,900		5.749,100		37,195,200
May,	22.188,600			3,117,000	5,374,500		30.680,100
June,	24,118,800				4,958,000		29.076,800
July,	15.732.700		3,906,200	1,694,000	3,729,400		25.062,300
Aug.,	12.171.900				3,359,800		15,531,700
Sept.,	13.962,200				2,707.400		16,669,600
Oct.,	14.654,000		4,283,200	1,680,000	3,213.600		23,830,800
Nov.,	18.313.60				4,865.800		23,179,400
Dec.,	25,299,600	60,196,809			5,857,000	24,115,675	115,469,084
Total,	263,168.700	60,196,809	20,269,300	8,214,000	60,960,700	24.115,675	436,925,184
Inventory of stock of gas delivered and on hand—							3,574,515
Spring Garden, Jan. 1, 1858,			15,203,200	City, Jan. 1, 1858,		61,544.000	
" " Jan. 1, 1857,			14,136,200	" Jan. 1, 1857,		66,185,515	
			1,067,000	Decrease,		4,641,515	433.350,669

ANNUAL REGISTRY OF CONSUMERS, AND PRIVATE AND PUBLIC LIGHTS.

DATE. To Dec. 31st.	APPLICATIONS.	REMOVALS AND DISCONTINUANCES.	TOTAL NUMBER OF CONSUMERS.	PRIVATE LIGHTS.		PUBLIC LIGHTS.			
				Added.	Total.	Streets.	Market houses.	Squares	Total.
1836,	301	24	277	2,952	2,952	165			165
1837,	497	108	666	3,862	6,814	136			301
1838,	849	174	1,341	4,288	11,102	133		62	496
1839,	946	300	1,987	5,380	16,482	162	18		676
1840,	788	882	2,393	3,317	19,799	112	1		789
1841,	874	493	2,774	4,387	24,186	13	8		810
1842,	845	541	3,078	3,054	27,240	30			840
1843,	986	635	3,429	3,418	30,658	59			899
1844,	1,000	503	3,926	4,940	35,598	195			1,094
1845,	1,147	629	4,444	5,754	41,352	112			1,206
1846,	1,465	717	5,192	8,138	49,490	96			1,302
1847,	1,869	887	6,174	12,987	62,477	84	10		1,396
1848,	1,956	1,002	7,128	13,935	76,412	21			1,417
1849,	2,191	1,180	8,139	18,050	94,462	74			1,491
1850,	2,227	1,150	9,216	20,542	115,004	72	13		1,576
1851,	2,529	1,339	10,406	21,616	136,620	124			1,700
1852,	3,004	1,747	11,663	20,550	157,170	118			1,818
1853,	3,280	1,954	12,989	25,432	182,602	87		23	1,928
1854,	2,884	1,969	13,904	18,127	200,729	27			1,955
1855,	17,479	8,485	22,898	82,487	283,216	1,368	26		3,349
1856,	5,937	4,626	25,544	32,225	315,441	84			3,433
1857,	5,504	4,744	26,304	17,046	332,487	68			3,501
Total,	58,558	33,589		332,487		3,340	76	85	

STATEMENT OF METERS SET EACH YEAR.

DATE. To December 31st.	SERVICES LAID.	METERS SET.									
		3 light.	5 light.	10 light.	20 light.	30 light.	45 light.	60 light.	100 light.	150 light.	500 light.
1836,	251	108	98	31	9	2	3				
1837,	411	301	77	19	6	2	3		3		
1838,	690	442	159	61	13	9	2	1	3		
1839,	649	421	118	75	26	6	3				
1840,	350	198	78	54	13	3	2		2		
1841,	375	203	93	63	14	2					
1842,	299	157	76	57	6	3					
1843,	348	180	110	50	7	1					
1844,	503	292	129	72	5	3	1		1		
1845,	523	311	151	49	7	4		1			
1846,	761	390	237	113	14	4	2	1			
1847,	999	481	300	202	12	1	3				
1848,	971	408	333	196	25	4	3	1	1		
1849,	1,029	366	366	234	46	7	5	2	3		
1850,	1,079	435	412	165	50	8	3	3	3		
1851,	1,211	534	373	204	76	15	4	2	3		
1852,	1,261	638	334	200	60	18	7	3	1		
1853,	1,364	688	360	167	92	23	12	6	15	1	
1854,	939	470	207	127	89	29	14	2	1		
1855,	8,110	4,290	3,158	369	150	28	28	11	23		
1856,	2,323	1,055	698	375	144	23	15	8	4		4
1857,	734	209	220	184	95	12	9	2	3		
Total,	25,180	12,577	8,087	3,067	959	207	119	43	66	1	4

LENGTH OF MAINS LAID IN STREETS EACH YEAR, IN LINEAL FEET.

DATE.	1¼ inch.	2 inch.	3 inch.	4 inch.	6 inch.	8 inch.	10 inch.	12 inch.	16 inch.	20 inch.	Total.
1836,		2,310	15,951	10,184	4,018		9,140				41,603
1837,		3,468	13,068	4,302	6,984						27,822
1838,		150	15,660	14,409	9,036		27	10,881	2,840		52,503
1839,		1,704	11,629	11,997	4,419	3,726					33,475
1840,		222	1,674	576	261						2,733
1841,		204	8,874	7,137	27						16,242
1842,		324	6,831	3,483	360	774					11,772
1843,		966	32,796	16,767	1,395	1,053					52,977
1844,		30,696	38,655	23,555	2,358	3,663	891				99,818
1845,	426	3,240	9,360	4,725	837						18,588
1846,		10,734	9,855	8,442	378	2,070					31,479
1847,		4,164	6,660	2,808	900	135					14,667
1848,		1,734	7,578	3,897	1,458	477					15,144
1849,		9,690	9,117	5,724	2,934	13,284	4,266	2,619	8,078	495	56 202
1850,		6,666	9,513	6,345	2,718						25,242
1851,		11,901	18,441	10,755	720	324					42,141
1852,		18,864	19,710	14,958		1,359				6,867	61,758
1853,		7,152	3,744	3,780	414				720	7,257	23,067
1854,		678	1,026	828							2,532
1855,		3,271	202,958	173,289	36,378	16,997	3,151	8,276		8,014	452,334
1856,		1,956	19,941	16,596	7,286	3,834	5			504	50,122
1857,		363	1,844	325	117	34					2,683
Total, - - - - -	426	120,457	464,885	344,882	82,998	47,730	17,480	21,776	11,133	23,137	1,134,904

STATEMENT OF GAS DELIVERED TO PUBLIC AND PRIVATE LIGHTS TO DECEMBER 31, IN EACH YEAR, BY THE WORKS IN THE FIRST AND NINTH WARDS.

YEAR.	PUBLIC LIGHTS.	PRIVATE LIGHTS.	SPRING GARDEN.	SOUTHWARK.	MOYAMENSING.	WEST PHILAD'A	Used at Offices, Shops and Works, loss by leakage, etc	MADE AT WORKS.
1836,	978,812	4,752,740					749,748	6,481,300
1837,	1,397,687	14,454,891					1,226,122	17,078,700
1838,	3,013,546	22,366,004					1,977,450	27,357,000
1839,	6,280,654	30,658,145					2,534,201	39,473,000
1840,	8,028,818	34,874,380					2,506,802	45,410,000
1841,	10,208,180	39,648,000					1,415,820	51,272,000
1842,	13,292,000	36,596,830					922,170	50,811,000
1843,	12,985,851	34,579,900					1,324,249	48,890,000
1844,	13,608,356	40,022,800					1,152,844	54,784,000
1845,	13,373,798	46,702,800					926,402	65,003,000
1846,	19,164,106	55,219,800	163,400				906,694	75,454,000
1847,	19,122,293	68,071,600	2,507,100				1,846,007	91,547,000
1848,	19,924,700	78,921,350	6,817,000				1,109,950	106,773,000
1849,	24,524,950	96,247,100	10,713,200	2,322,800	195,800		1,505,150	135,509,000
1850,	28,482,800	131,258,400	17,650,600	3,457,800	417,900		748,500	182,016,000
1851,	36,524,625	145,114,200	7,039,800	5,279,000	1,254,700		5,629,675	200,842,000
1852,	38,306,250	162,093,100		5,927,900	2,892,400	*354,600	6,641,750	216,216,000
1853,	37,406,625	191,679,750		10,458,200	5,810,700	2,765,720	1,306,005	249,427,000
1854,	40,177,874	209,334,300		14,989,200	8,304,030	6,501,800	2,916,826	282,224,000
1855,	48,049,050	209,606,065		18,099,000	7,660,600	10,386,200	6,212,085	300,013,000
Works in the 15th Ward.								2,246,581,000
from April 1st, 1855,	10,270,300	27,644,100					9,850,000	47,764,400
Total, - - - - - -								2,294,345,400

STATEMENT OF GAS

Made at all the Works managed under the Trust, and of that Delivered to Public and Private Lights, from Jan. 1st to De . 31st, 1857.

YEAR.	Made at Works in First, Ninth, and Fifteenth Wards.	GAS DELIVERED TO				Used at the Works and Offices of Trust; lost by leakage, &c.
		Public Lights.	Private Lights.	Southwark Gas Co.	Germantown Gas Co.	
1856.	434.742,000	80,935,200	304,961,250	18,992,500		29,853,050
1857.	469,067,000	84,312,484	318,928,400	29,860,000	7,962.000	37,004,116
Made in Previous Years,	2,294,345,400	The amount charged in 7th column belongs, viz: To First and Ninth Ward Works, 15,472,791 To Fifteenth Ward Works, 21,531,325				
Total, - -	3,198,154,400					37,004,116

NUMBER OF LAMPS UNDER THE CARE OF THE DEPARTMENT OF PUBLIC LIGHTING, JANUARY, 1858.

	GAS.	FLUID.
*City, - - - - -	1,951	0
*Moyamensing, - - -	235	76
*Spring Garden, - - -	889	213
*West Philadelphia, - - -	283	0
*Nicetown Pike, - - -	10	0
†Northern Liberties, - - -	386	29
†Kensington, - - - -	387	169
†Richmond, - - - -	60	197
‡Southwark, - - - -	267	168
‡Germantown, - - -	175	5
§Manayunk, - - - -	70	4
†Frankford, - - - -	57	0
	4,770	861
	861	
Total, - - - -	5,631	

* Supplied with gas directly from the City Works.

† Gas from Northern Liberties Works.

‡ Gas from City Works supplied through pipes of private Companies.

§ Gas from Manayunk Gas Company.

A COMPLETE LIST

OF THE

TRUSTEES OF THE PHILADELPHIA GAS WORKS,

FROM THE COMMENCEMENT,

IN THE ORDER OF THEIR APPOINTMENT.

Elections by Select Council, March 26th, 1835.

Benjamin W. Richards, John R. Latimer,	for one year.
A. D. Bache, W. H. Keating,	for two years.
J. P. Wetherill, H. M. Zollickoffer,	for three years.

Elections by Common Council.

John Farr, R. M. Huston,	for one year.
Frederick Fraley, Ephraim Haines,	for two years.
M. W. Baldwin, Thomas Cave,	for three years.

B. W. RICHARDS, *President.*
SAMUEL V. MERRICK, *Engineer.*
BENJAMIN MATTHIAS, *Secretary.*

B. W. Richards resigned the Presidency June 20th, 1835.

Dr. R. M. Huston elected President July 10th, 1835.

Dr. J. K. Mitchell elected July 9th, 1835, in place of B. W. Richards, resigned.

John Siter elected January 28th, 1836, in place of J. K. Mitchell, resigned.

Benjamin Matthias, Secretary, resigned March, 1836.

Frederick Brown elected January 19th, 1837, in place of A. D. Bache, whose term of service expired.

Samuel V. Merrick, Engineer, resigned February, 1837.

Alexander Ferguson elected November 23d, 1837, in place of Ephraim Haines, deceased.

John Wiegand elected April 12th, 1838, in place of H. M. Zollickoffer, resigned.

A. D. Bache elected September 27th, 1838, in place of John Siter, resigned.

George Handy elected January 30th, 1839, in place of J. R. Latimer, resigned.

Thomas Cave elected President in place of Dr. R. M. Huston, resigned June 28th, 1839.

Charles Gilpin elected January 14th, 1841, in place of W. H. Keating, deceased.

Thomas S. Smith elected January 28th, 1841, in place of M. W. Baldwin, whose term of service expired.

Dr. G. H. Burgin elected January 20th, 1842, in place of George Handy, whose term of service expired.

Isaac Myer elected January 20th, 1842, in place of R. M. Huston, whose term of service expired.

Samuel Norris elected January 19th, 1843, in place of Alexander Ferguson, whose term of service expired.

Isaac Barton elected January 18th, 1844, in place of Thomas S. Smith, whose term of service expired.

John C. Davis elected November 7th, 1844, in place of A. D. Bache, resigned.

Frederick Fraley elected President in place of Thomas Cave, deceased, March 28th, 1845.

Joseph S. Lovering elected April 10th, 1845, in place of Thomas Cave, deceased.

John Trucks elected June 19th, 1845, in place of Charles Gilpin, resigned.

Jacob E. Hagert elected January 29th, 1846, in place of Frederick Brown, whose term of service expired.

Frederick Brown elected March 25th, 1846, in place of John Farr, deceased.

M. W. Baldwin elected October 28th, 1847, in place of John Trucks, resigned.

John Agnew elected December 23d, 1847, in place of J. E. Hagert, resigned.

William Morris elected January 20th, 1848, in place of J. C. Davis, whose term of service expired.

John F. Gilpin elected January 20th, 1848, in place of G. H. Burgin, whose term of service expired.

Dr. G. H. Burgin elected April 6th, 1848, in place of J. S. Lovering, resigned.

John C. Davis elected April 13th, 1848, in place of W. Morris, resigned.

James Traquair elected January 18th, 1849, in place of Frederick Brown, resigned.

John Lindsay elected December 20th, 1849, in place of J. P. Wetherill, resigned.

Lewis Cooper elected December 20th, 1849, in place of J. C. Davis, resigned.

B. M. Feltwell elected January 31st, 1850, in place of Isaac Barton, resigned.

E. Y. Farquhar elected March 15th, 1850, in place of J. Lindsay, resigned.

John C. Davis elected October 24th, 1850, in place of E. Y. Farquhar, resigned.

Charles Lennig elected October 24th, 1850, in place of John Agnew, resigned.

Benjamin Gerhard elected January 30th, 1851, in place of Isaac Myer, resigned.

E. A. Souder elected January 29th, 1852, in place of M. W. Baldwin, resigned.

Samuel R. Brick elected January 25th, 1855, in place of E. A. Souder, whose term of service expired.

Wm. J. P. White elected January 25th, 1855, in place of Charles Lennig, whose term of service expired.

John Manuel elected January 25th, 1855, in place of Samuel Norris, whose term of service expired.

Wm. G. Flanagan elected January 25th, 1855, in place of Frederick Fraley, whose term of service expired.

John Wiegand elected President January 26th, 1855, in place of Frederick Fraley, whose term of service expired.

Frederick Fraley elected Trustee August 2d, 1855, in place of John Wiegand, resigned.

Dr. G. H. Burgin elected President August 24th, 1855, in place of John Wiegand, resigned.

Paul J. Field elected January 31st, 1856, in place of John C. Davis, whose term of service expired.

John M. Odenheimer elected January 31st, 1856, in place of Benjamin M. Feltwell, whose term of service expired.

G. W. Biddle elected June 26th, 1856, in place of W. G. Flanagan, resigned.

Anthony Miskey elected January 29th, 1857, in place of John F. Gilpin, whose term of service expired.

Andrew C. Craig elected January 29th, 1857, in place of James Traquair, whose term of service expired.

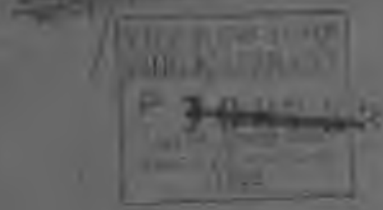
William M. Reilly elected January 28th, 1858, in place of Samuel R. Brick, whose term of service expired.

Harry Connelly elected January 28th, 1858, in place of W. J. P. White, whose term of service expired.

William B. Small, M. D., elected January 28th, 1858, in place of John Manuel, whose term of service expired.

Charles Leveret Wolff, elected January 28th, 1858, in place of George W. Biddle, whose term of service expired.

Andrew C. Craig elected President February 12th, 1858, in place of Dr. G. H. Burgin, whose term of service expired.



TWENTY-FOURTH

ANNUAL REPORT

OF THE

TRUSTEES

OF THE

PHILADELPHIA GAS WORKS,

JANUARY, 1859.



TWENTY-FOURTH

ANNUAL REPORT

OF THE

TRUSTEES

OF

The Philadelphia Gas Works.

TO THE

SELECT AND COMMON COUNCILS

OF THE

CITY OF PHILADELPHIA.

JANUARY, 1859.

PHILADELPHIA:
INQUIRER PRINTING OFFICE, 121 SOUTH THIRD STREET.
1859.

BOARD OF TRUSTEES, 1859.

PRESIDENT.

ANDREW C. CRAIG.

FREDERICK FRALEY,
LEWIS COOPER,
BENJAMIN GERHARD,
ANTHONY MISKEY,
HARRY CONNELLY,
WILLIAM M. REILLY,
DR. WILLIAM B. SMALL,
CHARLES L. WOLFF,
WILLIAM L. HIRST,
CONRAD S. GROVE,
EDWARD H. TROTTER.

ENGINEER.

JOHN C. CRESSON,
Appointed August 26th, 1836.

CASHIER.

WILLIAM FENNELL,
Appointed April 10th, 1857.

REGISTRAR.

JOHN P. MURTA,
Appointed April 10th, 1857.

REPORT.

To the Select and Common Councils of the City of Philadelphia.

The Trustees of the Philadelphia Gas Works, in conformity with the several Ordinances under which they act, do herewith present their Twenty-fourth Annual Report.

The Manufacturing Department of the Works remains nearly the same as it was at the period of our last Report, no permanent additions having been made during the past year, beyond the current repairs necessary to keep the Works in complete working order.

The want of a fund for the extension of the Works and extending the distributing mains, and putting in services, has been seriously felt for the past year; applications being constantly made for service pipes and meters, where new improvements are already made, or are to be made. In some cases whole squares, where there are applicants enough to remunerate the Trustees for the expenditure incurred.

A number of the applicants to whom Gas Light was absolutely necessary, have advanced the funds necessary to put the service pipes and meters into their premises, with the expectation of having it refunded at no very distant day.

Those persons, and indeed all other applicants feel aggrieved, and the Trustees think justly so, that they cannot be supplied with Gas on the same terms and conditions, as the rest of their fellow-citizens, who have been more fortunate in their several locations, whether for residences or places of business. The sum received and applied as above, amounts to $27,394 97, a more detailed

statement of which will be found in the accounts of the Trustees hereto annexed.

There is a further amount due to certain citizens who have laid mains along the Streets where there were none, for the purpose of taking the Gas to their premises. Of the amount so expended, the Trustees have no account, as it has not passed through the books of the Trust, but has been paid by the individuals themselves.

There is also another matter of great importance which ought not to be over-looked any longer, and that is the providing of suitable dwellings for the workmen at the Point Breeze Works. It cannot be expected that men who are obliged to travel one or two miles, more or less, morning and evening, to and from their work, as most of those employed there have to do, are capable of performing the same amount of labor that they could if provided with dwellings on the premises.

No loss could happen to the Trust nor to the public, by the erection of such buildings.

The ground is already paid for, and plain, substantial buildings could be erected at a cost that, by charging even a low rent for their use to the workmen employed at the Works, would yield an income sufficient to pay the interest on their cost, make the necessary additions to the Sinking Fund, and leave a surplus to pay taxes and make incidental repairs. To say nothing of the humanity of pursuing this course, there is another reason for their erection, still stronger than those given above. The men employed at the Works, or at least that portion of them occupying such dwellings, would be on the spot in case of accidents by fire or otherwise, which are liable to happen at any time, even with the strickest care and attention.

The object in view, in purchasing the property at Point Breeze was, at some future day, to concentrate the whole manufacturing department at that place, and the time is not far distant when it will be found to be much to the advantage of the Trust, to carry out the original intention.

Should Councils, however, not deem it expedient to pass

any Ordinance for the further extension of the Works, and putting down mains and services, there is another way by which they can relieve themselves and their successors of the whole Gas Department.

The whole cost of the Works up to the present date, including Richmond, Germantown, and Southwark, is $2,971,621 57. By selling the Works out to the Bond holders, or to a Company organized by them, with proper restrictions as to the price to be charged for Public Lighting, and also to private consumers, the City would be at once relieved of the above amount of her indebtedness, and also come into the immediate possession of nearly one million of dollars, now in the Sinking Fund.

This course is not recommended by the Trustees, but merely a suggestion on which Councils may take whatever action they think proper, and the only inquiry to be made is, "Whether the public would be as well, or better served by such an organization, as they are under the present system?" One fact is beyond dispute; a company such as they would necessarily be, and properly managed, would always find money to enlarge the capacity of the Works to any extent, where the revenue to be received would pay them for the outlay.

Under the authority granted to the Trustees by Ordinance, passed by Select and Common Councils, bearing date the 10th of May, 1858, entitled, "An Ordinance, for the further extension of the Philadelphia Gas Works," the Trustees have purchased the Works of the Richmond Gas Company, the Germantown Gas Company, and the Southwark Gas Company, at the several prices named in the said Ordinance, with certain allowances for improvements, made after the 1st of January, 1857, and said Works are now under the control and management of the Trustees.

After the purchase of the Richmond Works, it became necessary to lay a main pipe from Broad Street to the Frankford Road, for the purpose of connecting this district with the City Gas Works. Heretofore, the Trustees had to purchase from the Northern Liberties Gas Com-

pany, all the Gas supplied to the Public Lamps in the District of Richmond; and also, all the Gas supplied to the Public Lamps and private consumers in the Borough of Frankford.

The length of the aforesaid main is 11,112 feet, 6,933 feet are of 8 inch diameter, and 4,179 feet are of 6 inch diameter. The whole cost, including materials and labor is, $9,623 75, and has been paid out of the contingent fund.

Those Districts are now supplied directly from the City Works, which has been found to be much more satisfactory, and also much more economical.

Numerous complaints were made by the citizens of Germantown and its vicinity, of a want of light in the early part of the evenings: it therefore became necessary, in order to give some additional pressure, to enlarge the gas-holder at that station: which has been done in a most satisfactory manner.

A full account of these and other improvements, will be found in the Report of the Engineer, hereto annexed.

A Committee of the Trustees have had one or two meetings, with a similar Committee of the Manayunk Gas Works, and it is believed that, between this and the first of April next, the matter of the purchase of those Works will be finally arranged to the satisfaction of all parties. In that event, it will become a question, whether it will not be more economical to abolish the Manufacturing Department there, and take the supply from the City Works.

The Report of the Engineer and Cashier will be found annexed. They set forth in a clear and distinct manner, the workings of the Trust, both in the manufacturing and financial department.

To the intelligence and ability of those two gentlemen, in their several departments, the Trust owes much of its present prosperity.

ANDREW C. CRAIG, *President.*

Attest,

JOHN P. MURTA, *Registrar,*

January 27, 1859.

ENGINEER'S REPORT.

the Trustees of the Philadelphia Gas Works:

The undersigned has the honor to lay before the Board Trustees, his Twenty-third Annual Report, of the con- tion of the Works confided to his care, and the results their operations during the year just closed.

The several factories belonging to the Trust have pro- uced, in the year 1858, 480,208,000 cubic feet of gas, of hich 188,819,000 cubic feet were made at the Works in e First Ward; 177,658,000 in Ninth Ward; and 113,- 31,000 in Fifteenth Ward.

The whole quantity that has been made under the rust, from its commencement, is over thirty-six hundred illion cubic feet, or in exact figures, 3,678,296,000.

The materials used in making gas, are as shown in the nexed tabular statement:

	Tons.
Coal in store, January 1st, 1858, -	19,238
" bought in 1858, - -	47,006
	66,244
Coal carbonized in 1858, - -	49,040
" in store, January 1st, 1859, -	17,204
	66,244

	Bushels.
Coke on hand, January 1st, 1858, -	260,133
" made in 1858, - -	1,634,387
	1,894,520

	Bushels.
Coke used under retorts, in 1858, -	931,989
" used in Offices, Yards, &c. -	69,045
" Sold - - - -	820,716
" Stock on hand, January 1, 1859,	72,770
	1,894 520

There has also been used, 118,986 bushels of Lime in purifiers, and 675 cords of Wood.

The maximum number of retorts continuously in use, at the Works in the First Ward, was 108; in Ninth Ward, 197; and in the Fifteenth Ward, 106. The average being, in the First Ward, 85½; in the Ninth Ward, 106; and in the Fifteenth Ward, 71¼. The greatest number at work at one and the same time in all these Works, being 402.

The largest daily average yield of each retort in the year, was 7,240.

The largest quantity from each pound of coal respectively made for any full days work, was 4.73 ft.

The number of meters and service pipes put in at new places has been:

In the Wards comprising the Old City, - -	307
" " " Spring Garden & Penn,	308
" " " Moyamensing, -	87
" " " Southwark, - -	5
" " " Richmond, - -	4
" Twenty-second Ward, - - -	55
" Twenty-third Ward, - - -	3
" Twenty-fourth Ward, - - - -	26
	795

Making a total of meters and services, set during the year 1858, 795: adding those reported last year, and those transferred to the Trust by the Germantown, Richmond, and Southwark Gas Companies, makes the whole number of meters now in use, 28,782, and 28,897 services.

The number of applications registered during the year, including all those on the books of the private Gas Companies, transferred to the Trust, has been:

At Seventh Street Office, old City,	8,806
" Spring Garden Street Office,	2,117
" Twenty-second Ward Office,	620
" Twenty-third Ward Office,	71
" Twenty-fourth Ward Office,	187
In all,	11,801

Deducting from these the removals and discontinuances, amounting to 8,152, and adding the number of previous consumers, shows the whole number of gas consumers at the present time on the books of the Trust, to be 29,953.

The lights added during the year, including those transferred by private Gas Companies, are as follows:

Old City,	10,497
Spring Garden and Penn,	5,051
Southwark,	15,628
Moyamensing,	792
Richmond,	2,130
Twenty-second Ward,	7,300
Twenty-third Ward,	175
Twenty-fourth Ward,	386
Previously in use,	332,487
Total,	374,446

The Public Lamps now in use, amount, in all the Wards supplied from these Works, to 4,016.

The length of street mains laid during the year, has been 54,554 feet; received from Gas Companies, 158,985,

feet, making the entire length of mains belonging to the Trust, 1,348,443 feet, or 255¼ miles.

In the current operations of the Works there has been no important deviation from its usual routine. The consumption of gas for several months in the first half of the year, was much less than in the corresponding portion of the year before, but there was an increase in the latter months, of sufficient magnitude to over-balance this deficiency, and make the aggregate of the year larger than that of any previous year, though not enough to restore the usual ratio of consumption to the number of burners recorded as in use.

The latter result will probably ensue upon the general revival of manufacturing and other business operations, and upon its occurrence, the daily consumption of gas, during the winter months, will approach as near to the maximum daily capacity of production, as is allowable in any works that are conducted with a prudent foresight of what may be required for public safety and convenience.

With regard to this important question of the proper relation between the consumption of gas and the manufacturing capacity of the Works, it may be deemed appropriate to introduce here, a few remarks that may serve to correct certain very erroneous opinions, which, after having been refuted some years ago, have again recently been promulgated upon the subject.

On a former occasion, as now, in the public discussions relative to extension of the Gas Works, an idea has been entertained that, no enlargement of the Manufacturing Department could be needed as long as it was capable of producing, as a daily maximum, a quantity equal to the average daily consumption, as determined by dividing the whole annual consumption by 365. Now the entire fallacy of this idea is evident to every experienced gas engineer, who well knows that this so-called average of daily consumption bears no definite relation to the actual daily results. In some places the average is more than twice as great as the actual daily consumption in summer, and not equal to half the actual daily wants in winter,

their proportion varying in different places according to the latitude and other circumstances.

In order, therefore, to carry into practical effect this idea of limiting the factory to the average daily wants, it would be necessary to store the surplus quantity made in summer, and use it for supplying the deficiency of make in winter. To do this in Philadelphia, would require an enormous capacity of gas-holder room, the cost of which would be more than ten times as great as that of the factory, the place of which is to be thus supplied: and the expenses of repair and management alone would be greater than the cost of labor in making the gas as wanted. In higher geographical latitudes, the greater variations in the length of the nights, would give rise to difficulties of still greater magnitude.

The principal advantage from having a surplus of store-room, beyond that needed for the daily make of gas, is found in the compensation it affords for the casual variations in the amount of daily consumption, within each month or week, by which the retort fires must otherwise be subjected to frequent and irregular changes, that greatly affect their productiveness.

Any increase of the surplus store-room, beyond the proportion needed for this purpose, is inconsistent with proper economy. The amount required for this purpose must vary in different local circumstances. For example, if all the consumption of gas was in private families, the occasional variations would be quite small, requiring but little surplus store-room: where much of the consumption is in stores and places of public amusements, the consumption on Sabbath nights is usually less than the average of the week: again, where numerous public lamps are lighted only when there is no moonlight, a considerable variation is found in accordance with the phases of that planet; and where the principal consumption is in a few large factories or in legislative halls, the casual and irregular variations are likely to be very great, and to require a correspondingly larger surplus of store-room.

In the ordinary circumstances of a large city, many of

the different causes of variation neutralize each other, but enough remain to make a surplus storage equal to half the daily consumption in winter, a desirable proportion.

This ratio has been aimed at in the construction and enlargement of these Works, and is found to answer well in practice.

Another idea set forth, under seeming official sanction, that the capacity of Gas Works for suppyling their customers, is to be measured by adding the quantity of gas they can purify to that which the retorts can generate, and the holders can store, is so evidently absurd as to need but brief remark. Every one who has any practical knowledge of gas-making, knows that as much gas can be made without any purifiers as with them; the effect of purifying is to protect the consumer from the injury he would suffer by using gas not entirely freed from its deleterious ingredients. The want of sufficient purifying apparatus ought certainly to limit the quantity of gas made, but their increase to any extent, cannot add to the productive capacity of the retorts. In computing the *cost* of a gas manufactory, the dimensions of all its parts, whether used for generating, purifying, or storing, must be included in the calculation.

The conclusion to be drawn from the statements that have elicited the foregoing remarks, is that while "figures *properly* applied" elicit truth, their fallacious application tends to an opposite result.

The additions of a permanent character, made during the year, have included numerous extensions of street-mains, and services and meters, desired by parties who were willing to pay their cost, and also other extensions and improvements found to be necessary for giving a proper distribution of supply to various remote points. Some of the latter became obligatory by the conveyance to the City, in trust, of the Works, pipes, &c., belonging to private Gas Companies, under the provisions of the Ordinance of May 10th, 1858.

Those belonging to the Germantown and Richmond Gas Companies came under our care on the 1st of July,

and those of the Southwark and Moyamensing Gas Company on the 1st of December. Numerous complaints of insufficient supply in certain parts of Germantown and Chestnut Hill, made it manifest that some remedial measure was much needed in that vicinity. After due examination of the local circumstances, it was thought that the best remedy would be found in the repair and enlargement of the gas-holder at Germantown, which was accordingly enlarged, and put in good working order, and has given an improved local supply that appears to be quite satisfactory.

The connection of the City Works with Richmond, Aramingo, and Frankford, was effected by laying a main along Master, Front and Norris Streets, to meet the Richmond pipes on the Frankford Road. The Master Street main is 8 inches in diameter and being connected with the large main on Broad Street, it serves the additional purpose of maintaining the supply on the various intersecting Streets between Broad and Front, which were much in need of such aid. The portion of this pipe north of Master Street is of 6 inches diameter. When the supply from the City Works was about to be substituted for that previously received from the Northern Liberties Works, the attention of the Superintendents was especially directed to the making of careful comparative observations upon the sufficiency of supply before and after the change of connection. Their reports of observations made both with the pressure gauges and by inspection of the lights, indicate a perceptible improvement after the connection was made with the City Works, notwithstanding the greatly increased distance from which the gas was conveyed. The nearest point of manufacture is distant from Frankford about seven miles, and the most remote is about ten miles.

No difficulty has been experienced in maintaining a suitable working pressure on this line, until it reaches the pipe leading through Richmond and Aramingo, which is nearly four miles in length and only four inches in diameter. This small pipe has to convey all the gas used

in Frankford, as well as to supply the local demand along the line in Richmond and Aramingo. When the Frankford Works came into possession of the consolidated City in 1854, the pressure obtained from the Northern Liberties Gas Works, through this attenuated conduit was found to be insufficient to fill the gas-holder or to give a proper supply to the consumers. The difficulty was, in a good degree, removed by the use of a small suction apparatus to pump gas into the holder during day-light; but the consumption has since increased so much that this small main cannot safely be relied on for another year, even with the aid of the auxiliary apparatus; for the exhaustion of the pressure in the main beyond a certain limit, may produce an influx of air to the great detriment of the light, and with serious hazard of explosion. Complete relief from this embarrassment can be obtained only by laying down another main from Norris Street to Frankford. It should be not less than 6 inches in diameter, and with this additional conduit a consumption more than three times as great as now exists, could be properly supplied.

In connection with the department of distribution, it affords me much pleasure to record the faithfulness and intelligence with which its duties have been discharged by the Superintendent, Mr. John A. Miskey, under whose supervision the various extensions have been effected in a most workmanlike manner, and with remarkable economy.

For several years, much attention has been given to the various new methods of artificial illumination, from time to time brought forward by numerous inventors. So frequent have these new projects become, as to raise a belief that some new discovery must be on the eve of development, by which the art of illumination is to be revolutionized.

But there seems to be no good reason for resorting to this theory, in explanation of the phenomenon, as it is sufficiently explained by the fact that the materials heretofore in most general use for giving artificial light, are becoming more scarce and costly, while the wants of the

community are from year to year growing more imperative.

Many of the new schemes turn out worthless upon due examination, and all have hitherto come very far short of the extravagant expectations held forth by their projectors. But there are a few, which, although yet deficient in some element essential to complete success, seem to include principles which, on sufficient investigation, may lead to most desirable improvements.

Among the experimental trials made in the last year, some have been attended by results of remarkable significance; the quantity of available light obtained, under certain favourable conditions, having been more than three times as great as is derivable from the same materials by the ordinary methods.

It is true, there are yet serious difficulties standing in the way of their application in general practice. But as these consist chiefly in certain niceties of management, that can be implicitly relied on, only in labaratory operations, there is a strong probability that the experience acquired by continuing these investigations, may elicit determinate rules applicable in the larger operations of the factory. Should this anticipation be realized, the commercial and social results will be of very great importance; the cheapening of the means of lighting would be measured by millions of dollars annually, and the benefits of this essential element of civilization might thereby be vastly extended.

During the past year, the cellular retorts have been in continued use, making gas both from wood and other materials, with results equally favorable with those formerly reported; and the open settings of retorts, adopted a few years ago, have now been extended throughout the First Ward Works.

In conclusion, it is due to my assistants and other officers in immediate charge of the factories and various departments, that I should bear testimony to their diligent attention to the important affairs entrusted to their care.

The accompanying tabular statements present, in com-

pact form, the principal statistics of the Works for the year just closed, and for the entire series of annual operations from their commencement, twenty-three years ago.

Respectfully,

JNO. C. CRESSON.

Engineer.

PHILADELPHIA GAS WORKS.
January 27, 1859.

REPORT OF THE CASHIER.

OFFICE OF THE PHILA. GAS WORKS.
January 27, 1859.

To the Trustees of the Philadelphia Gas Works.

GENTLEMEN:—The accounts herewith presented exhibit a greater degree of prosperity in the financial department of the Gas Works than was anticipated in the depressed state of things at the commencement of the year, and the want of a fund for the introduction of service pipes and meters.

The payments for lighting the City having (for the most part) been promptly made by the City Treasurer, we have been enabled to carry on the business without borrowing.

The profits, after paying the interest on Loans and Gas Stocks, and the appropriations to the several Sinking Funds, now established by Ordinances, nett the sum of - - - - - - $77,393 88
to be added to the Contingent Fund.

The appropriations from the gross profits derived from the sales of Gas, Coke, &c., at the various Works, are:

Interest on Gas Loans, including that payable at the City Treasury, - - -	110,950	00
For the Sinking Funds of all the Gas Loans and the Gas Works of Richmond and Germantown, - - - - -	58,310	00
Eight per cent. on $450,000, the valuation of the Spring Garden, West Philadelphia, Moyamensing and Frankford Gas Works	36,000	00
	282,653	88
Less the decrease of the suspended debt, during the year, - - -	3,784	00
Gross profits, - - -	$278,869	88

The detailed statements are as follows:

CASH ACCOUNT.

Dr.

Balance January 1st, 1858, - - -		$35,921 62
Receipts in 1858.		
For sales of gas at this office,	$815,488 99	
" " Sp'ng Garden,	134,768 16	
" " Frankford,	6,084 81	
" " Germantown,	4,988 78	
" " Richmond,	246 45	
		961,521 69
For sales of coke, &c., at this office,	$35,485 57	
" " Sp'ng Garden,	12,514 79	
		48,000 36
For rents at Frankford, - - -		243 50
City Warrants, - - -		68,875 46
Interest on Loan 9, held for Sinking Fund,		9,195 00
" " City Loans, " "		6,647 50
Sales of Loan 9, - - - -		33,700 00
Certificates of City Loan, paid, -		7,100 00
Main pipes, service pipes, meters, &c., at this office,	$24,675 87	
At Spring Garden, -	7,396 11	
At West Philadelphia, -	856 78	
At Germantown, - -	1,781 47	
At Frankford, - -	242 20	
Richmond, - -	24 50	
		34,976 93
Balance, Jan. 9, 1858,		$1,200,682 06

Cr.

Payments in 1858.

For the construction and enlargement of the works, - - - -	$7,711 78
Extension of the street mains, -	6,889 83
Service pipes and meters, - -	13,709 84
Amount carried forward,	$27,769 95

Amount brought forward,		$27,760 95
For Coal and other materials used in the manufacture of gas, wages of workmen, charge of the public lamps, &c.,		492,563 32
Repairs of the works, mains, &c.,		73,834 74
Incidental expenses, - - -		120,841 67
Salaries of the Engineer, Cashier and Registrar, - - - -		7,000 00
Temporary Loans, - - -		65,000 00
Interest on Loans, - - -		49,457 65
Investments for the Sinking Fund. -		213,749 00
City Treasurer, for interest on Loan 9, - - - $30,000		
Do, Eight per cent. on $450 000 as directed by Ordinance of March 20, 1855, - - 36,000		
		66,000 00
Discount on City Warrants, - -		431 25
Balance on hand, - - -		84,043 48
		$1,200,682 06

STATE OF THE WORKS, JANUARY 1, 1859.

ASSETS.

Works, - - - - -	$1,185,508 15
Street mains, - - - -	654,480 72
Service pipes and meters, - -	379,941 80
Public lamps, - - - -	11,814 02
Cash, - - - - -	84,043 48
Suspended debt, - - -	18,558 01
Stocks belonging to the Sinking Fund, -	942,610 05
Coal on hand, - - -	107,525 00
Coke on hand, - - - -	2,910 80
Rosin on hand, - - -	2,880 00
Wood on hand, - - - -	1,336 00
Materials for repairs, - -	4,000 00
Due for gas, sold, delivered, and on hand,	169,706 40
Amount carried forward,	$3,560,263 93

Amount brought forward,		$3,560,263 98
Due for coke, tar, &c.,	- - -	2,770 31
Interest on City Loan, due January 1, 1859,		4,987 00
Wharf lot on the Schuylkill,	-	6,000 00
Site of the new Gas Works,	- -	36,957 69
Spring Garden Gas Works,	- -	300,000 00
Moyamensing "	- -	30,000 00
West Philadelphia "	- - -	50,000 00
Frankford "	- -	20,000 00
Germantown "	- - -	90,000 00
Richmond "	- -	16,500 00
Southwark "	- - -	118,240 00
Stocks belonging to the Sinking Fund in the hands of the City Treasurer,	-	40,461 00
		$4,330,179 98

LIABILITIES.

Loans, - - - - -	$1,870,000 00
Dividends unpaid, - - -	405 00
Interest on gas loans, - - -	31,442 70
Interest on gas stocks, - - -	4,260 00
For coals, repairs, and materials used in the manufacture of gas, - -	242,042 28
Sinking Fund, - - - -	996,350 20
Sinking Fund, for the redemption of $450,000 City debt, - - -	40,461 00
Stockholders of the Germantown Gas Works, for the cost of said works,	90,000 00
Stockholders of the Richmond Gas Works, for the cost of said works, - -	16,500 00
Stockholders of the Southwark Gas Works, for the cost of said works, - -	118,240 00
Profit and loss, amount of suspended debt,	13,558 01
City of Philadelphia, for Works taken, as per Ordinance, of March 20, 1855, -	450,000 00
Contingent Fund, - - -	461,929 71
	$4,330,179 98

STATEMENT OF THE SINKING FUND.

1858,		
January 1.	Amount of Sinking Fund, -	$890,920 70
June 30.	6 months' interest on $408,200, gas loans, at 6 per cent. -	12,096 00
	6 months' interest on $94,200, gas loans, at 5 per cent. -	2,355 00
	6 months' interest on $164,300, gas loans, issued by the City Treasurer, at 6 per ct.	4,929 00
	6 months' interest on $115,200, City loans, at 6 per cent.	3,456 00
	6 months' interest on $65,500 City loans, at 5 per cent.	1,637 50
	6 months' appropriation of 2 per cent. per annum, on $975,000, loans 1, 2, 3 and 9,	9,750 00
	3 per cent. per annum on $125,000, loan 4,	1,875 00
	4 per cent. per annum on $770,000, loans 5, 6, 7, & 8,	15,400 00
Dec. 31.	6 months' interest on $408,200 gas loans, at 6 per cent.	12,246 00
	6 months' interest on $96,800, gas loans, at 5 per cent.	2,420 00
	6 months' interest on $175,100, gas loan, issued by the City Treasurer, at 6 per cent.	5,253 00
	6 months' interest on $181,400 City loans, at 6 per cent.	5,442 00
	6 months' interest on $61,800 City loans, at 5 per cent.	1,545 00
	6 months' appropriation of 2 per cent. per annum, on $975,000, loans 1, 2, 3 and 9, - - -	9,750 00
	Amount carried forward,	$979,075 20

					Amount brought forward,		$979,075 20
					8 per cent. per annum, on $125,000, loan 4,		1,875 00
					4 per cent. per annum, on $770,000, loans 5, 6, 7 and 8,		15,400 00
							$996,350 20

The amount invested is as follows:

1858.							
January	1.	Cost of investments at this date,					$785,961 05
		Purchased during the year 1858:					
March	5.	$5,000,	6 per cents.	@93,	and bro.	4,662 50	
	19.	2,000,	6 "	93¼,	"	4,786 25	
	19.	3,100,	6 "	93½,	"		
	20.	4,000,	6 "	93¾,	"	3,760 00	
	24.	1,000,	6 "	93⅝,	"	6,908 00	
	24.	5,300,	6 "	93½,	"		
	24.	1,200,	5 per cents.	@83⅓,	"		
	26.	100,	6 "			95 00	
April	8.	21,600,	6 "	93½,	and bro.	20,250 00	
	20.	14,500,	5 per cents.	@85,	"	12,361 25	
	24.	10,000,	6 "	96,	"	9,625 00	
	24.	25,000,	6 "	96,	"	24,062 50	
May	6.	6,000,	6 "	98,	"	5,895 00	
	14.	16,000,	6 "	100,		16,000 00	
June	15.	300,	5 per cent.	85,		255 00	
August	5.	7,200,	6 per cents.	@97½,	and bro.	7,038 00	
	16.	100,	6 "			98 25	
Oct.	25.	1,000,	6 "	@102¼,	and bro.	1,025 00	
	29.	300,	6 "	102½,		307 50	
Nov.	4.	8,400,	6 "	102¾,	and bro.	8,652 00	
	4.	1,100,	6 "	102½,	"	1,130 25	
	4.	3,000,	6 "	101,	"	3,037 50	
	4.	1,200,	6 "	100½,	"	1,209 00	
	10.	2,200,	5 "	90,		1,980 00	
	11.	10,800,	6 "	101½,	and bro.	10,989 00	
		Amount carried forward,					$880,088 05

		Amount brought forward,				$880,088 05
Nov.	11.	22,100, 6	per cent.	@102,	and bro.	22,597 25
	11.	1,300, 5	"	96½,	"	1,257 75
	11.	200, 5	"	94,	"	188 50
	11.	500, 5	"	92,	"	461 25
	11.	400, 5	"	90,	"	361 00
	15.	14,200, 6	"	102½,	"	14,555 00
		1,600, 6	"	102⅓,	"	1,638 00
		1,500, 6	"	102,	"	1,533 75
		1,400, 5	"	92,	"	1,291 50
	27.	6,800, 6	"	102,	"	6,953 00
	30.	2,700, 6	"	102,	"	2,760 75
	30.	4,500, 6	"	99,	"	4,460 25
Dec.	7.	5,600, 6	"	99,	"	5,558 00
	21.	6,000, 6	"	99¼,	"	6,000 00
						$949,710 05
Aug.	2.	Received for Certificate of City Loan, which became due July 1,				7,100 00
						$942,610 05
		Balance not invested,			-	53,740 15
						$996,350 20

STATEMENT OF THE SINKING FUND.

Directed to be accumulated and applied by the City Treasurer, as per Ordinance of March 20, 1855, for the redemption of $450,000 of city loans, being the estimated value of the Spring Garden, Moyamensing, West Philadelphia, and Frankford Gas Works, placed in charge of the Trustees by said Ordinance.

1858.

Jan'y 1.	Amount not invested,	- -	$5,389 25
June 30.	Cash p'd City Treasurer, for said fund,		4,500 00
	Interest on City Loans, held for said fund,	- - -	981 00
	Amount carried forward,		$10,870 25

Amount brought forward,			589,600 00
Five per cent. city loans:			
Redeemable in 1871,	5,200		
1872,	7,300		
1873,	2,200		
1874,	300		
		61,800 00	
Five per cent. gas loans:			
No. 4, redeemable in 1866,		96,800 00	
Six per cent. gas loans:			
No. 9, redeemable in 1885, issued by the city Treasurer,		175,100 00	
		$923,300 00	
Loans bought since the first of December, 1858, with certificate and power:			
Six per cent city loans,	14,100		
Six per cent. gas loans,	2,000		
		16,100 00	
		$939,400 00	
The cost of the above, was		$942,610 05	

STATEMENT OF THE PROFIT AND LOSS ACCOUNT FOR 1858.

January 1.	Amount due for coals, materials, and repairs, chargeable to the manufacture of gas,	$232,117 86
Decem. 31.	Sales of gas,	961,521 69
	Sales of coke, lime, tar, &c.,	48,000 36
	Rents at Frankford,	243 50
	Stock of coal on hand,	107,525 00
	" of coke,	2,910 80
	" of rosin,	2,880 00
	Amount carried forward,	$1,355,199 21

	Amount brought forward,	$1,355,199 21
	Stock of wood, . -	1,336 00
	" of materials for repairs, -	4,000 00
	Due for coke, lime, tar, &c.,	9,770 81
	Due for gas, - - -	169,706 40
	Suspended debt, - -	18,558 01
		$1,553,569 93
January 1.	Amount of stock on hand and debts due to the works at this time, - - -	$320,644 78
	Payments for the manufacture of gas; coal, and other materials, and wages, including the cost of public lighting,	492,563 32
	Repairs of the works, street mains, meters, and service pipes, - - -	73,834 74
	Incidental charges, including the salaries of officers and clerks, - - -	127,841 67
	Discount on city warrants,	431 25
	Due for coals, repairs, and materials used in the manufacture of gas, and for the public lighting, - - -	242,042 28
	Suspended debt, Jan. 1, 1858,	17,342 01
		$1,274,700 05
	Balance, being profits of the year,	278,869 88
		$1,553,569 93

From the profits there have been the following appropriations:

For interest on gas Loans, payable at the office of the Trustees, - - -		$80,950 00
	Amount carried forward,	$80,950 00

Amount brought forward,	80,950 00
For interest on gas Loan 9, payable at the City Treasury, - - - -	30,000 00
For the Sinking Fund of all the gas Loans, as directed by Ordinances, - -	54,050 00
Eight per cent. on $450,000, paid to the city Treasurer, per Ordinance of March 20, 1855, - - - -	36,000 00
Four per cent. on $106,500, to pay six months' interest, state tax, and appropriation to the Sinking Funds of the Germantown and Richmond Gas Works, -	4,260 00
Balance beyond the interest on loans, city debt, gas stock, and appropriation to the several Sinking Funds, - - -	73,609 88
	$278,869 88

The above balance of -	$73,609 88	
And the sum of -	3,784 00	
Being the decrease of the suspended debt during the year 1858, leaves the sum of -		77,393 88
for the increase of the Contingent Fund.		

STATEMENT OF THE CONTINGENT FUND.

1858,	Amount of the Fund, Jan. 1, 1858,	$384,526 86
Dec. 31.	Increase during the year, as per profit and loss account, -	77,393 88
		$461,920 74

The amount raised under various Ordinances for the construction and enlargement of the Works, for extraordinary repairs and renewals, and for working capital, has been, to January 1. 1859:

Loans. - - - -	$1,870,000 00
Amount carried forward,	1,870,000 00

Amount brought forward,		1,870,000 00
City of Philadelphia, for works, per ordinance of March 20, 1855,		450,000 00
Contingent Fund, derived from profits,		461,920 74
Stock of Germantown Gas Company,		90,000 00
Stock of Richmond do		16,500 00
Stock of Southwark and Moyamensing Gas Company,		113,240 00
		$3,001,660 74

In addition to the above, individuals have paid, (over the usual charges,) for street mains, service pipes, and meters, since the means at the disposal of the Trust for such objects were exhausted, the sum of - - - - 27,394 97

The amount expended has been:

Construction of works,		$1,185,508 15
Street mains,		654,430 72
Service pipes and meters,		379,941 80
Public lamps,		11,814 02
Wharf lot on the Schuylkill,		6,000 00
Site of the gas works, first ward,		36,957 69
Spring Garden Gas Works,		300,000 00
Moyamensing do		80,000 00
West Philadelphia do		50,000 00
Frankford do		20,000 00
Germantown do		90,000 00
Richmond do		16,500 00
Southwark do		113,240 00
		$2,944,391 88

The liabilities of the Trust, January 1, 1859, for current business, are as follows:

Due for coals repairs, materials, &c., used in the manufacture of gas,		$242,042 28
Amount carried forward,		242,042 28

Amount brought forward,	$242,042 28
Due for street mains, service pipes, and meters,	27,229 69
Due for interest and dividends,	86,107 70
Due to Sinking Fund for balance of appropriation to said Fund December 31, 1858,	53,740 15
	359,119 82

The means to meet said liabilities are:

Cash on hand,	84,043 48
Interest due Jan. 1, 1858 on city loans,	6,987 00
Debts due for gas and stock of coals and materials on hand,	298,128 51
	$389,158 99

During the year, the Richmond, Germantown and Southwark Gas Companies have disposed of their Works to the Trust, under the action of the Ordinance approved May 20th, 1858.

Very respectfully,

WM. FENNELL,

Cashier.

1888. ENGINEER'S ACCOUNT. 1888.

WORKS.		STREET MAINS.		SERVICES.	
Wages of laborers and fitters,	$ 776 25	Wages of men employed in laying mains,	$1,731 14	Wages of men employed in laying pipes and setting and fitting up meters,	$7,251 04
Pumping engines,	1,750 00	Pipes and castings,	1,467 75	Meters,	2,696 45
Mason work,	1,356 27	Paving,	1,117 22	Tubing,	890 10
Lumber,	917 93	Lead,	891 51	Paving,	824 92
Telegraph,	763 14	Digging trench	742 81	Lead pipe,	825 89
Galvanised pipe and tubing,	714 98	Carting,	449 40	Stop cocks,	429 50
Meters,	439 50		$6,339 83	Lumber,	423 22
Iron,	280 55			Iron and castings,	200 20
Stone and bricks,	261 50			Meters paid for and refunded,	193 45
Valves and stop cocks,	158 00			Hardware,	113 20
Lime and cement,	146 05			Tin and copper,	97 03
Glass,	90 06			White lead,	21 65
Hardware and gas fixtures,	34 80			Carting,	18 97
Steam gauge,	22 75			Fittings,	5 20
	$7,711 78				$13,709 34

1858. ENGINEER'S ACCOUNTS. 1858.

GAS.		REPAIRS.		INCIDENTALS.	
Wages of stokers and men employed in retort houses and purifying houses, manufacturing gas and wheeling coke coals, &c.,	$ 89,235 69	Wages of mechanics and laborers engaged in repairs of works street mains, and services,	$20,328 32	Wages of cle'ks men employed in inspection of fittings and meters, and taking statements for bills, storing coals and coke at works, measuring coke, tar, &c., and attending the public lamps,	$109,898 97
Coals,	248,154 96	Castings,	25,220 54	Rents,	23,028 93
Gas bo'ght,	63,279 69	Lamps and posts,	7,702 29	Fluid, filling & trimming public lamps,	17,357 99
Freight on coals,	9,207 24	Fire brick and tile,	6,229 89	Cart'g coke, &c	8,303 21
Carting, towing, and hoisting,	8,729 33	Meters,	4,740 68	Printing, stationary & advertising,	3,483 46
Oyster shells,	5,356 38	Lumber,	2,593 68	Alcohol & Glycerin,	1,596 00
Wood,	3,250 47	Iron,	2,362 52	Taxes and Water rents,	1,586 33
Lime,	144 10	Tubing, burners, &c.,	2,053 98	Damages and medical services,	1,365 00
		Oils, paints, &c.	1,468 75	Horse and mule keep and hire	1,285 87
		Coal and coke wagons,	1,281 14	Paints, dr'gs &c	696 97
		Bricks, stone, and cement.	1,079 46	Matches,	525 50
		Wagons, and wheelwright work,	919 21	Carriage hire and sundries for Board and Councils,	487 92
		Hardware and nails,	845 57	Buckets, bar'ls, and baskets,	418 06
		Carting,	773 02	Telegraph and instruments,	397 00
		Masonry and bricklaying,	600 00	Mules,	300 00
		Paving,	587 52	Reports, lighting,	196 00
		Blacksmith w'k	573 23	Smith w'k & coal	182 62
		Tin work and roofing,	525 08	Pressure registers,	92 00
		Stop cocks, screws, and valves,	472 75	Books & bind'rs	79 56
		Brooms, barrels, &c.,	400 74	Soap & tallow,	75 41
		Railroad curves and scales,	382 30	Hardware and gas fixtures,	60 97
		Machine work,	350 00	Ice,	56 45
		Harness, leather and belting,	196 79	Badges,	47 75
		Blankets and muslin,	113 23	Groceries,	46 51
		Stoves and boiler work,	108 96	Rubber goods and cloth,	50 14
		Pumps & hose,	99 26	Cleansing water course,	35 40
		Tallow & lead,	96 20	Postage,	33 17
		Ship chandlery,	89 84	Traveling expenses,	25 66
		Cotton waste,	86 71	Spelter,	14 37
		Tools,	86 50	Cleansing offices,	11 94
		Trunk boards,	28 93	Repairing safe,	10 00
		Sand,	1 60	Sundries,	749 12
Total,	$432,357 86	Total,	$82,398 65	Total,	172,483 22

CITY REGISTRY.

DATE, 1858.	Applications.	Removals and Discontinuances.	PRIVATE LIGHTS.		PUBLIC LIGHTS.		
			Added.	Total.	Streets.	Market Houses.	Squares.
To January 1st, .	58,558	33,589	148,012	332,487	3,340	76	85
January, . . .	399	362	691	333,178			
February, . . .	336	314	562	333,740			
March, ...	500	459	702	334,442			
April, ...	632	553	1,491	335,933			
May, ...	542	487	1,434	337,367	8		
June, ...	410	360	1,448	338,815			
July, ...	366	332	1,074	339,889	186		
August	487	417	1,388	341,277			
September, . .	646	556	1,803	343,080			
October, . . .	736	634	2,866	345 946	61	2	
November, . .	580	478	2,014	347,960	26		
December, . . .	6,167	3,200	26,486	374,446	231	19	6
Total, ...	11 801	8,152	41 959		562	21	6
Brought down.	58 558	33,589	148,012		3,340	76	85
Grand Total	70 359	41,741	189 971	374,446	3.902	97	91

METERS SET.

DATE, 1858.	Services laid.	METERS SET.									
		3 Light.	5 Light.	10 Light.	20 Light.	30 Light.	45 Light.	60 Light.	100 Light.	150 Light.	500 Light.
To January 1st, . .	25,180	12,577	8,087	3,067	959	207	119	43	66	1	4
January, ...	41	16	9	8	4	2	1		1		
February, ...	21	6	5	6	3	1					
March, ...	36	9	8	12	6	1					
April, ...	77	19	22	24	11		1				
May, ...	59	10	23	15	8	1		1	1		
June, ...	44	15	7	11	10	1					
July,*	550	200	210	88	29	4		1			
August, ...	74	23	23	17	7	2	1		1		
September, ...	102	37	22	20	16	6					
October,†	444	300	34	37	27	9		1			
November, ...	109	34	35	23	12	4	1				
December,‡	2,160	1,822	245	37	33	9	4				
Total, ...	3,717	2,491	643	298	166	40	8	3	3		
Brought down, . .	25,180	12,577	8,087	3,067	959	207	119	43	66	1	4
Grand Total, ...	28,897	15,068	8,730	3,365	1,125	247	127	46	69	1	4

*Including all in Germantown.
†Including all in Richmond.
‡Including all in Southwark and Moyamensing.

MAIN PIPES LAID IN STREETS, LINEAL FEET.

DATE, 1858.	1½ Inch.	2 Inch.	3 Inch.	4 Inch.	6 Inch.	8 Inch.	10 Inch.	12 Inch.	16 Inch.	20 Inch.	Total.
To Jan. 1, 1858,	426	120457	464885	344882	82998	47730	17480	21776	11133	23137	1,134904
January,			261								261
February,			351								351
March,			456								456
April,			208								208
May,			18								18
June,			189								189
July,*		5,212	45,216	20,271	6,076	1,008					77,813
August,		800	2,944	112							3,856
September,		257	2,002	630	4,179	6,933					14,001
October,†	186	2,338	16,087	19,817							38,478
November,	18	830	2,998	3,528							7,374
December,‡		1,983	6,238	50,042	10,521	1,750					70,534
Total,	204	11,500	76,968	94,400	20,776	9,691					213,539

*Including all laid by Germantown Gas Company, prior to July.

†Including all laid by Richmond Gas Company, prior to October.

‡Including all laid by Southwark and Moyamensing Gas Company, prior to December.

REPAIRS OF SERVICES.

1858.	Stop-Cocks Renewed.	Rims and Covers for Stop-Cock Boxes.	Services Renewed.	New Stop-Cock Boxes.
January,		13		11
February,				
March,			1	1
April,				23
May,		3	1	19
June,		18		172
July,		12	2	501
August,		23	6	244
September,	3	40	3	523
October,	5	10	4	17
November,	3	16	9	24
December,		11	2	17
Total,	11	146	28	1,543

STATEMENT OF GAS

Paid for in each month in the year, made on the First, Ninth, and Fifteenth Wards, being the amount of bills as per meters to the first of the month.

1858.	Feet of gas consumed at private houses.	Public Lamps.	SUPPLIED BY S. G'DEN GAS W'KS. Supplied to Southw'k Gas Comp'y.	Supplied to German-town Gas Works.	Feet of Gas consumed at private houses.	Public Lamps.	Totals.
Jan.,	27,716,300		6,572,700	2,376,000	6,280,300		43,602,300
Feb.,	27,205,200				7,119,400		34,324,600
March,	29,782,400				6,877,400		36,659,800
April,	25,680,200		5,911,400	2,331,000	5,648,600		39,570,600
May,	21,372,400				5,417,000		26,789,400
June,	22,234,000				4,772,200		26,996,000
July,	14,687,800		3,016,000	1,785,000	3,189,500		22,278,300
August,	11,193,800				2,956,400		14,150,200
Sept'r.,	12,652,300				2,499,200		15,151,500
October,	13,406,200		4,115,300		3,941,550		21,463,050
Nov'r.,	19,059,900				5,256,000		24,315,900
Dec'r.,	29,353,400	63,791,513	4,102,800		7,186,700	26,068,716	130,503,129
Total,	254,420,900	63,791,513	24,678,200	6,492,000	61,683,650	26,068,716	436,524,979
Inventory of stock of gas delivered and on hand—							8,106,000
Spring Garden, Jan. 1st, 1859,			17,899,100	City, Jan. 1st, 1859,		66,954,100	
Do. do. Jan. 1st, 1858,			15,203,200	Do. Jan. 1st, 1858,		61,544,000	
			2,695,900			5,410,100	444,630,979

ANNUAL REGISTRY OF CONSUMERS, AND PRIVATE AND PUBLIC LIGHTS.

DATE. To Dec. 31	Applications.	Removals and Discontinuances.	Total number of Consumers.	PRIVATE LIGHTS. Added.	Total.	PUBLIC LIGHTS. Streets.	Market Houses.	Squares.	Total.
1836,	301	24	277	2,952	2,952	165			165
1837,	497	108	666	3,862	6,814	136			301
1838,	849	174	1,341	4,288	11,102	133		92	426
1839,	946	300	1,987	5,380	16,482	162	18		676
1840,	788	382	2,393	3,317	19,799	112	1		789
1841,	874	493	2,774	4,387	24,186	13	8		810
1842,	845	541	3,078	3,054	27,240	30			840
1843,	996	635	3,429	3,418	30,658	59			899
1844,	1,000	503	3,926	4,940	35,598	195			1,094
1845,	1,147	629	4,444	5,754	41,352	112			1,206
1846,	1,465	717	5,192	8,138	49,490	96			1,302
1847,	1,869	887	6,174	12,987	62,477	84	10		1,396
1848,	1,956	1,002	7,128	13,935	76,412	21			1,417
1849,	2,191	1,180	8,139	18,050	94,462	74			1,491
1850,	2,227	1,150	9,216	20,542	115,004	72	13		1,576
1851,	2,529	1,339	10,406	21,616	136,620	124			1,700
1852,	3,004	1,747	11,663	20,550	157,170	118			1,818
1853,	3,280	1,954	12,989	25,432	182,602	87		23	1,928
1854,	2,884	1,969	13,904	18,127	200,729	27			1,955
1855,	17,479	8,485	22,898	82,487	283,216	1,368	26		3,349
1856,	5,937	4,626	25,544	32,225	315,441	84			3,433
1857,	5,504	4,744	26,304	17,046	332,487	68			3,501
1858,	11,801	8,162	29,953	41,959	374,446	502	21	6	4,090
Total,	70,359	41,741		374,446		3,902	97	91	

STATEMENT OF METERS SET EACH YEAR.

DATE. To Decr. 31.	Services laid.	METERS SET.									
		3 Light.	5 Light.	10 Light.	20 Light.	30 Light.	45 Light.	60 Light.	100 Light.	150 Light.	500 Light.
1836,	251	108	98	31	9	2	3				
1837,	411	301	77	19	6	2	3		3		
1838,	690	442	159	61	13	9	2	1	3		
1839,	649	421	118	75	26	6	3				
1840,	350	198	78	54	13	3	2		2		
1841,	375	203	93	63	14	2					
1842,	299	157	76	57	6	3					
1843,	318	180	110	50	7	1					
1844,	503	292	129	72	5	3	1		1		
1845,	523	311	151	49	7	4		1			
1846,	781	390	237	113	14	4	2	1			
1847,	999	481	300	202	12	1	3				
1848,	971	408	333	196	25	4	3	1	1		
1849,	1,029	366	366	234	46	7	5	2	3		
1850,	1,079	435	412	165	50	8	3	3	3		
1851,	1,211	534	373	204	76	15	4	2	3		
1852,	1,261	638	334	200	60	18	7	3	1		
1853,	1,364	688	360	167	92	23	12	6	15	1	
1854,	939	470	207	127	89	29	14	2	1		
1855,	8,110	4,290	3,158	339	150	28	28	11	23		
1856,	2,323	1,055	698	375	144	23	15	8	4		4
1857,	734	209	220	181	95	12	9	2	3		
1858,	3,717	2,491	643	298	166	40	8	3	3		
Total,	28,897	15,008	8,730	3,365	1,125	247	127	46	69	1	4

LENGTH OF MAINS LAID IN STREETS EACH YEAR, IN LINEAL FEET.

DATE.	1½ Inch.	2 Inch.	3 Inch.	4 Inch.	6 Inch.	8 Inch.	10 Inch.	12 Inch.	16 Inch.	20 Inch.	Total.
1836,		2,310	15,951	10,184	4,018		9,140				41,603
1837,		3,468	13,068	4,302	6,984						27,822
1838,		150	15,660	14,409	9 036		27	10,881	2,340		52,503
1839,		1,704	11,629	11,997	4,419	3,726					33,475
1840,		222	1.674	576	261						2,733
1841,		204	8,874	7,137	27						16,242
1842,		324	6,831	3,483	360	774					11,772
1843,		966	52,796	16,767	1,395	1,053					52,977
1844,		30,696	38,655	23,555	2,358	3,663	891				99,818
1845,	426	3,240	9,360	4 725	837						18,588
1846,		10,734	9,855	8.442	378	2.070					31,479
1847,		4,164	6,660	2,508	900	135					14,667
1848,		1,734	7,578	3,897	1,458	477					15,144
1849,		9 690	9,117	5,774	2,934	13,284	4 266	2,619	8,073	495	56,202
1850,		6,666	9,513	6,345	2,718						25,242
1851,		11 901	18,441	10,755	720	324					42,141
1852,		18,864	19,710	14,958		1,359				6,867	61,758
1853,		7,152	3,744	3,780	414				720	7,257	23,067
1854,		678	1,026	828							2,532
1855,		3,271	202.958	173.289	36,378	16,997	3,151	8,276		8,014	452,334
1856,		1.956	19.941	16,596	7,286	3,834	5	.		504	50 122
1857,		363	1,844	325	117	34					2,683
1858,	204	11,500	76,968	94,40	20,776	9,691					213,539
Total,	63	131.957	541,853	439,282	103,774	87,421	17 480	21,776	11,133	23,137	1,348,443

STATEMENT OF GAS DELIVERED TO PUBLIC AND PRIVATE LIGHTS TO DECEMBER 31, IN EACH YEAR, BY THE WORKS IN THE FIRST AND NINTH WARDS.

YEAR.	Public Lights.	Private Lights.	Spring Garden.	Southwark.	Moyamensing.	West Philadelphia.	Used at Offices, Shops and Works, loss by leakage, &c.	Made at Works.
1836,	978,812	4,752,740					749,748	6,481,300
1837,	1,397 687	14.454,891					1,226,122	17.078,700
1838,	3,013,546	22,366.004					1,977,450	27,357,000
1839,	6,280,654	30.658,145					2,534,201	39 473,000
1840,	8,028,818	34,874.380					2,506,802	45,410,000
1841,	10 208,180	39.648,090					1,415,820	51.272,0 0
1842,	13,292,000	36,596,8 0					922,170	50,811,000
1843,	12,985,851	34,579,900					1,324,349	48,890,000
1844,	13,608 356	40,022,800					1 152,844	54,784,000
1845,	13 373.798	46,702,800					926,402	65,003,000
1846,	19,164,106	55,219,800	163,400				906,694	75,454.000
1847,	19,127,293	68,071,600	2.507,100				1 846,007	91,547,000
1848,	19,924,700	78 921,350	6,817,000				1,109 950	106.773,000
1849,	24,524.950	96,247,100	10,713 200	2,322,800	195.800		1,505,150	135.509,000
1850,	28.482,800	131,258,400	17,650.600	3,457,800	417,900		748,500	182,016,000
1851,	36,524,625	145,114.200	7,039,800	5,279,000	1 254,700		5,629,675	200,842,000
1852,	38,306 250	162,093,100		5,027,900	2 892,400	354.600	6,641,750	216,216,000
1853,	37.406,625	191,679,750		10,458.200	5,810.700	2,765,720	1,306,005	249,427,000
1854,	40,177,874	209 334,300		14,989.200	8,304,000	6,501,800	2,916,826	282,224,000
1855,	48,049,"50	209 606 065		18,699,000	7,660,600	10,386,200	6,212,085	300,013,000
Works in 15th Ward, from April, 1858,	1',270,300	27,644,100					9,850,000	2,246.581,000 47 764,400
Total. . . .								2.294 345,400

STATEMENT OF GAS

Made at all the Works managed under the Trust, and of that Delivered to Public and Private Lights from January 1st to December 31st, 1858.

YEAR.	Made at Works in First, Ninth, and Fifteenth Wards.	GAS DELIVERED TO				
		Public Lights.	Private Lights.	Southwark Gas Company.	Germantown Gas Company.	Used at the Works and offices of the Trust, loss by leakage, &c.
1856,	434,742,000	80,935,200	304,961,250	18,992,500		29,853,050
1857,	469,057,000	84,312,484	318,928,400	20,86 ,000	7,992,000	37,004,116
1858,	480,208,000	89,850,229	323,610,550	24,678,200	6,492,000	35,577,021
Made in previous years,	2,294,345,400	The amount charged in 7th column belongs, viz:— To First and Ninth W'd Works, 14,639,287 To Fifteenth Ward Works, 20,937,734				35,577,021
Total. . .	3,678,302,400					

NUMBER OF LAMPS UNDER THE CARE OF THE DEPARTMENT OF PUBLIC LIGHTING, JANUARY 1st, 1859.

	Gas.	Fluid.
*City,	1,957	3
*Moyamensing,	239	85
*Southwark,	267	173
*Spring Garden,	904	249
*Richmond,	61	108
*Germantown,	230	17
*Nicetown,	9	
*Frankford,	7	23
*West Philadelphia,	292	2
†Northern Liberties,	387	41
†Kensington,	387	256
‡Manayunk,	90	20
	4,880	977
	977	
Total,	5,857	

* Supplied with gas directly from City Works.

† Supplied with gas from Northern Liberties Works.

‡ Gas from Manayunk Gas Company's Works.

A COMPLETE LIST

OF THE

TRUSTEES OF THE PHILADELPHIA GAS WORKS,

FROM THE COMMENCEMENT,

IN THE ORDER OF THEIR APPOINTMENT.

Elections by Select Council, March 26th, 1835.

Benjamin W. Richards, John R. Latimer,	for one year.
A. D. Bache, W. H. Keating,	for two years.
J. P. Wetherill, H. M. Zollickoffer,	for three years.

Elections by Common Council.

John Farr, R. M. Huston,	for one year.
Frederick Fraley, Ephraim Haines,	for two years.
M. W. Baldwin, Thomas Cave,	for three years.

B. W. Richards, *President.*
Samuel V. Merrick, *Engineer.*
Benjamin Matthias, *Secretary.*

B. W. Richards resigned the Presidency June 20th, 1835.

Dr. R. M. Huston elected President July 10th, 1835.

Dr. J. K. Mitchell elected July 9th, 1835, in place of B. W. Richards, resigned.

John Siter elected January 28th, 1836, in place of J. K. Mitchell, resigned.

Benjamin Matthias, Secretary, resigned March, 1836.

Frederick Brown elected January 19th, 1837, in place of A. D. Bache, whose term of service expired.

Samuel V. Merrick, Engineer, resigned February, 1837.

Alexander Ferguson elected November 23d, 1837, in place of Ephraim Haines, deceased.

John Wiegand, elected April 12th, 1838, in place of H. M. Zelliokoffer, resigned.

A. D. Bache elected September 27th, 1838, in place of John Sitar, resigned.

George Handy elected January 30th, 1839, in place of J. R. Latimer, resigned.

Thomas Cave elected President, in place of Dr. R. M. Huston, resigned June 28th, 1839.

Charles Gilpin elected January 14th, 1841, in place of W. H. Keating, deceased.

Thomas S. Smith elected January 28th, 1841, in place of M. W. Baldwin, whose term of service expired.

Dr. G. H. Burgin elected January 20th, 1842, in place of George Handy, whose term of service expired.

Isaac Myer elected January 20th, 1842, in place of R. M. Huston, whose term of service expired.

Samuel Norris elected January 19th, 1843, in place of Alexander Ferguson, whose term of service expired.

Isaac Barton elected January 18th, 1844, in place of Thomas S. Smith, whose term of service expired.

John C. Davis elected November 7th, 1844, in place of A. D. Bache, resigned.

Frederick Fraley elected President, in place of Thomas Cave, deceased, March 28th, 1845.

Joseph S. Lovering elected April 10th, 1845, in place of Thomas Cave, deceased.

John Trucks elected June 19th, 1845, in place of Charles Gilpin, resigned.

Jacob E Hagert elected January 29th, 1846, in place of Frederick Brown, whose term of service expired.

Frederick Brown elected March 25th, 1846, in place of John Farr, deceased.

M. W. Baldwin elected October 28th, 1847, in place of John Trucks, resigned.

John Agnew elected December 23d, 1847, in place of J. E. Hagert, resigned.

William Morris elected January 20th, 1848, in place of J. C. Davis, whose term of service expired.

John F. Gilpin elected January 20th, 1848, in place of G. H. Burgin, whose term of service expired.

Dr. G. H. Burgin elected April 6th, 1848, in place of J. S. Lovering, resigned.

John C. Davis elected April 13th, 1848, in place of W. Morris, resigned.

James Traquair elected January 18th, 1849, in place of Frederick Brown, resigned.

John Lindsay elected December 20th, 1849, in place of J. P. Wetherill, resigned.

Lewis Cooper elected December 20th, 1849, in place of J. C. Davis, resigned.

B. M. Feltwell elected January 31st, 1850, in place of Isaac Barton, resigned.

E. Y. Farquhar elected March 15th, 1850, in place of J. Lindsay, resigned.

John C. Davis elected October 24th, 1850, in place of E. Y. Farquhar, resigned.

Charles Lennig elected October 24th, 1850, in place of John Agnew, resigned.

Benjamin Gerhard elected January 30th, 1851, in place of Isaac Myer, resigned.

E. A. Souder elected January 29th, 1852, in place of M. W. Baldwin, resigned.

Samuel R. Brick elected January 25th, 1855, in place of E. A. Souder, whose term of service expired.

Wm. J. P. White elected January 25th, 1855, in place of Charles Lennig, whose term of service expired.

John Manuel elected January 25th, 1855, in place of Samuel Norris, whose term of service expired.

Wm. G. Flanagan elected January 25th, 1855, in place of Frederick Fraley, whose term of service expired.

John Wiegand elected President January 26th, 1855, in place of Frederick Fraley, whose term of service expired.

Frederick Fraley elected Trustee August 2d, 1855, in place of John Wiegand, resigned.

Dr. G. H. Burgin elected President August 24th, 1855, in place of John Wiegand, resigned.

Paul J. Field elected January 31st, 1856, in place of John C. Davis, whose term of service expired.

John M. Odenheimer elected January 31st, 1856, in place of Benjamin M. Feltwell, whose term of service expired.

G. W. Biddle elected June 26th, 1856, in place of W. G. Flanagan, resigned.

Anthony Miskey elected January 29th, 1857, in place of John F. Gilpin, whose term of service expired.

Andrew C. Craig elected January 29th, 1857, in place of James Traquair, whose term of service expired.

William M. Reilly elected January 28th, 1858, in place of Samuel R. Brick, whose term of service expired.

Harry Connelly elected January 28th, 1858, in place of W. J. P. White, whose term of service expired.

William B. Small, M. D., elected January 28th, 1858, in place of John Manuel, whose term of service expired.

Charles Leveret Wolff elected January 28th, 1858, in place of Geo. W. Biddle, whose term of service expired.

Andrew C. Craig elected President February 12th, 1858, in place of Dr. G. H. Burgin, whose term of service expired.

Conrad S. Grove elected January 27th, 1859, in place of John M. Odenheimer, deceased.

Edward H. Trotter elected January 27th, 1859, in place of Dr. Geo. H. Burgin, whose term of service expired.

William L. Hirst elected January 28th, 1859, in place of Paul J. Field, whose term of service expired.

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TWENTY-FIFTH

ANNUAL REPORT

OF THE

TRUSTEES

OF THE

Philadelphia Gas Works,

JANUARY, 1860.

DUPLICATE EXCHANGE 1 AUG. 1901
MERCANTILE L. L. PHILA.



TWENTY-FIFTH

ANNUAL REPORT

OF THE

TRUSTEES

OF

THE PHILADELPHIA GAS WORKS,

TO THE

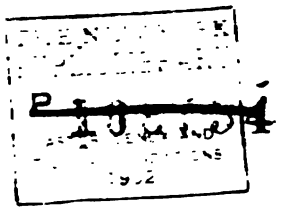
SELECT AND COMMON COUNCILS

OF THE

CITY OF PHILADELPHIA.

JANUARY, 1860.

PHILADELPHIA:
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1860.



BOARD OF TRUSTEES
FOR 1860.

PRESIDENT.

EDWARD H. TROTTER.

DIRECTORS.

FREDERICK FRALEY,	CONRAD S. GROVE,
HARRY CONNELLY,	EDWARD H. TROTTER,
WILLIAM M. REILLY,	PAUL T. FIELD,
DR. WILLIAM B. SMALL,	CHARLES E. GRAEFF,
CHARLES L. WOLFF,	JOHN MANUEL,
WILLIAM L. HIRST,	T. CHALKLEY WOOD.

ENGINEER.

JOHN C. CRESSON,

Appointed August 26th, 1836.

CASHIER.

WILLIAM FENNELL,

Appointed April 10th, 1857.

REGISTRAR.

JOHN P. MURTA,

Appointed April 10th, 1857.

REPORT.

To the Select and Common Councils
of the City of Philadelphia,

The Trustees of the Philadelphia Gas Works, in presenting this their Twenty-fifth Annual Report, beg leave to congratulate Councils, and their fellow-citizens, on the flourishing condition of the Department of the City Government under their immediate control.

On the 1st of April last, the Trustees concluded with the Manayunk Gas Co., for the purchase of their works, mains, services, and meters, and paid for the same as directed in the Ordinance of May 10, 1858, entitled "An Ordinance for the further extension of the Philadelphia Gas Works."

The original intention of abolishing the Manufacturing Department at that Station, has been postponed for the present, the Engineer not believing it prudent, in the face of so great an increase in the consumption of gas, to abolish it, at least until the new additions to the works at Point Breeze, now in course of construction, shall have been completed.

In anticipation, however, of that event, a main has been laid, commencing at Nineteenth and Hamilton streets, in the Fifteenth Ward, and extending along Nineteenth street to the Ridge turnpike, and thence along said turnpike until it forms a connection with the pipes of the Manayunk Gas Works, in the Twenty-first Ward.

By this means, a large number of the inhabitants of the upper part of Germantown and Chestnut Hill, besides a large and growing district lying between Chestnut Hill and Manayunk, have received an additional supply of gas, for the want of which many complaints had been made for the last year. The distributive capacity of the mains in that direction, is now considered sufficient to supply the demand for gas in that large and flourishing portion of the city, for several years to come.

Under authority of a special ordinance passed by Councils on the 22d day of October, 1859, the Trustees have purchased from the Kensington Gas Co. all their works, which consisted entirely of mains, services, and meters, they having no apparatus for manufacturing gas, no gas-holder, nor even a station meter, but receiving their supply of gas directly from the works of the Northern Liberties Gas Co., who collected all the bills from the customers of the Kensington Co., and paying over to the latter the amount, after deducting a stipulated price per one thousand cubic feet for the quantity of gas consumed, and have paid for the same in cash, agreeably to the terms and conditions of the aforesaid ordinance.

After the purchase of the above named works, it became necessary to connect them with the City Works, by a main commencing at Broad street, south of Girard avenue, and connecting at several points with the mains of the Kensington Company.

This proceeding the Northern Liberties Company at first threatened to resist, but afterwards abandoned their position. Their objection was, that the above main passed through a portion of the old district of the Northern Liberties, over which, they alleged as a gas company, they had the exclusive control.

During the last summer there has been erected at Point Breeze, a new retort house, of nearly similar dimensions and capacity to the one already in use there, under the

authority granted to the Trustees by the ordinance of Councils dated 26th of March, 1859; and there have also been erected an additional purifying house, a blacksmith and carpenter shop, the whole built of stone, with iron and slate roofs, and in the most substantial manner.

The construction of these buildings has been principally under the superintendence and direction of Dr. Charles M. Cresson, the first assistant engineer of the works, who has attended most faithfully to the purchase and delivery of the materials on the ground, and has carefully guarded against all extravagance, or waste in their use; besides making all the architectural plans and drawings, with but very little additional expense to the trust. His labors, during the whole time of the building, will average from 14 to 16 hours per day. It may be proper to add, that he has been ably assisted by Mr. Geo. L. Gay, the second assistant engineer.

These buildings are now nearly finished, and a part of the new retorts is in full operation. The remainder will be in readiness as soon as they may be required.

The additions made to the department of distribution during the present year are without parallel in the annals of gas lighting in this, or perhaps any other country. The length of mains added since the passage of the ordinance authorizing loan No. 10, in March last, is something over eighty-three miles. Of this amount, over sixty miles have been laid by the trust, and the balance by the purchase of the Manayunk and Kensington Works, which being added to the length previously in use will make a total of 339 miles now belonging to the city, and under the control of the Trustees. The number of services and meters set during the year, has been 4,510, and the whole number now in use is 36,311.

The whole number of cubic feet of gas made during the year has been over 562,000,000.

The largest amount made in any twenty-four consecutive hours occurred on the 24th of December, and the largest

consumption in the same period of time was on the same day, and amounted to 2,700,000 cubic feet.

A full and detailed account of these, and all other matters connected with the works, will be found in the report of the Engineer, herewith submitted, under whose direction and guidance Philadelphia can now boast of the most complete gas establishment on this continent.

The subject of public lighting having occupied the attention of the Trustees for some time, a committee of this board in December last, had a conference with a special committee of the Gas Committee of Councils, which resulted in an agreement, that the price of lighting the public lamps should be reduced from $38 42 to $36 00, which includes, beside the gas consumed, the lighting, extinguishing, cleansing, and repairing.

This reduction the Trustees were enabled to make, owing to the fact, that they are not now obliged to purchase the gas for the public lamps, except in the Northern Liberties, from the different district gas companies, as heretofore.

The whole number of public lamps now in use, is six thousand one hundred and three.

The saving to the city for the present year will be about $15,000, and will be always increasing in proportion as other public lamps become necessary. This result is one of the evidences of the wise policy of consolidating the different gas companies.

As it has now been finally determined by the Directors of the Pennsylvania Railroad Company, that their eastern terminus shall be at Prime street landing, on the Delaware river, it may not be amiss for Councils to take into consideration, the propriety of having a lateral railroad built from a point east of Gray's Ferry bridge to the Point Breeze Works. By this means, the works will be enabled to receive their coals direct from the cars of the Pennsylvania Railroad, at a saving of some 25 to 30 cents per ton.

The estimated amount of coal which will be required at that station for the next season, will be about 30,000 tons, and will be every year increasing; and when it is taken into consideration, that the whole length of the road required to be made, would be about the half of a mile; the necessity of having it in readiness, as soon as the Pennsylvania Railroad Company have made the connection with that of the Baltimore and Prime street, will be apparent to Councils. The saving in the expense will be sufficient in about two years to cover the whole cost.

All the proper additions to the Sinking Fund have been made up to the first instant. The whole amount now is $1,109,865 80, and is composed entirely of city and gas loans. A full and detailed statement of this, and all other financial matters relative to the trust, will be found in the Report of the Cashier, hereunto annexed.

ANDREW C. CRAIG,
President.

Attest:

JOHN P. MURTA, *Registrar.*

January 26th, 1860.

ENGINEER'S REPORT.

To the Trustees of the Philadelphia Gas Works:

The undersigned has the honor to lay before the Board of Trustees his Twenty-fourth Annual Report of the condition of the works confided to his care, and the results of their operations during the year just closed.

The several factories belonging to the trust have produced in the year 1859, 562,110,000 cubic feet of gas; of which, 202,313,000 cubic feet were made at the works in First Ward, 230,054,000 in Ninth Ward, 126,020,000 in Fifteenth Ward, and 3,723,000 at the works in Twenty-first Ward.

The whole quantity that has been made under the trust, from its commencement, is over forty-two hundred million cubic feet, or in exact figures 4,240,406,000 cubic feet.

The largest consumption in twenty-four hours was 2,700,000 cubic feet, on the 24th of December, on which day the quantity made reached an equal amount.

The materials used in making gas are as shown in the annexed tabular statement:

	Tons.
Coal in store, January 1st, 1859, - - -	17,231
" bought in 1859, - - - - -	53,969
	71,200

	Tons.
Coal carbonized in 1859, - - - -	57,309
" in store, January 1st, 1860, - - -	13,891
	71,200

	Bushels.
Coke on hand, January 1st, 1859, - -	72,770
" made in 1859, - - - - -	1,954,158
	2,026,928

Coke used under retorts in 1859, - - -	1,103,502
" " offices, yard, &c., - - -	77,093
" " sold, - - - - - -	829,663
" " on hand, January 1st, 1860, -	16,670
	2,026,928

There has also been used 112,909 bushels of lime in purifiers, and 671 cords of wood.

The maximum number of retorts continuously in use at the works in First Ward was 144; in Ninth Ward 207; in Fifteenth Ward 108; and in Twenty-first Ward 9. The average being in the First Ward 93; in the Ninth Ward 133; in the Fifteenth Ward 79; and in the Twenty-first Ward 6. The greatest number at work at one and the same time, in all these works, being 468.

The largest daily average yield of each retort in the year was 7,715 cubic feet.

The largest quantity from each pound of coal made for any full day's work, was 4.74 feet.

The number of meters and service pipes put in at new places has been:

In the Wards comprising the Old City, - -	1,004
" " " Spring Garden & Penn,	1,363
" " " Moyamensing, -	685
" " " Southwark, - -	685
" " " Richmond, - -	102
" " " Kensington, - -	42
" Twenty-first Ward, - - - -	97
" Twenty-second Ward, - - - -	231
" Twenty-third Ward, - - - -	110
" Twenty-fourth Ward, - - - -	191
In all, - - - - -	4,510

Making a total of meters and services set during the year 1859, 4,510; adding those reported last year, and those transferred to the trust by the Manayunk and Kensington Gas Companies, makes the whole number of meters now in use 36,311, and 36,426 services.

The number of applications registered during the year, including all those on the books of the private gas companies, transferred to the trust, has been:

At Seventh Street Office, - - - -	9,184
" Spring Garden Gas Office, - - -	3,316
" Twenty-first Ward Office, - - - -	601
" Twenty-second Ward Office, - - -	360
" Twenty-third Ward Office, - - -	184
" Twenty-fourth Ward Office, - - -	363
In all, - - - -	14,008

Deducting from these the removals and discontinuances, amounting to 6,381, and adding the number of previous consumers, shows the whole number of gas consumers at the present time on the books of the trust, to be 37,580.

The lights added during the year, including those transferred by private gas companies, are as follows:

Old City, - - - - - - - -	15,244
Spring Garden and Penn, - - - -	12,967
Southwark, - - - - - - -	4,450
Moyamensing, - - - - - - -	4,387
Richmond, - - - - - - - -	840
Kensington, - - - . - -	10,000
Twenty-first Ward, - - - - -	5,622
Twenty-second Ward, - - - - -	4,262
Twenty-third Ward, - - - - -	1,088
Twenty-fourth Ward, - - - - -	2,921
Previously in use, - - - - -	374,446
Total, - - - - -	436,227

The public lamps now in use amount, in all the Wards supplied from these works, to 4,962.

The length of street mains laid during the year has been 314,003 feet; received from gas companies 128,419 feet, making the entire length of mains belonging to the trust, 1,790,865 feet, or 339 miles.

In every department great activity has prevailed since the passage of the ordinance of March 26th, 1859.

The extension of the street mains had been most urgently desired by a large body of citizens resident in every quarter, and it was deemed only just to those who had been long waiting, that the utmost dispatch should be given to the fulfilment of their reasonable wishes. As rapidly, therefore, as the pipes could be obtained from the manufacturers, they were laid down and brought into use, with such an equitable distribution of the work over the different localities as appeared most likely to give general satisfaction.

With such energy was this work carried on, that as much as 45,000 feet of main pipe was laid down in a single month, and the aggregate result of the operations of the season in

laying new mains and making connections with those purchased from the Manayunk and Kensington Gas Companies, has been the addition of 82 miles of street mains, over 20 miles of service pipes, and nearly 7,000 new customers to the establishment.

This unprecedented increase of the means of distributing gas to consumers, confirmed the expectation previously entertained, of the necessity for making considerable additions to the means of supply.

The preparations for this part of the work necessarily consumed much more time than those for distribution; and it was not until past midsummer that the principal castings needed for the erection of the requisite buildings, were delivered on the ground. After the receipt of these, the work was prosecuted with all possible dispatch, and before the close of the year gas was manufactured in the new retort house.

The buildings erected comprise a retort house 250 feet long, 57 feet wide, and 57 feet in height, from the foundations. A purifying house 111 feet by 58; a boiler house 46½ feet by 25 feet, and a range of workshops for the smiths, fitters, and carpenters, 350 feet in length by 28 in width, all built of durable sandstone, and roofed with slate or iron. A substantial bulkhead of timber, secured by heavy piling, driven by steam power, has been constructed along the entire river front of the Gas Works' estate south of the wharf, for securing effectually this valuable front of more than eight hundred feet from the encroachments which the river has been making upon it during every successive flood.

There have also been constructed a large tar cistern, 40 feet in diameter and 20 feet deep, a number of small cisterns, to serve as lime traps, to remove this sedimentary deposit from the drain culverts; a second hoisting tower at the wharf, working with hydraulic machinery, and additional railway tracks, 2,300 feet in length, for the conveyance of the large

amount of heavy materials that have to be moved to and from various points on the premises.

The propriety of carrying on these enlargements promptly, has been made evident by the fact, that before the close of the year and prior to the connection with the Kensington mains, the consumption of gas reached the amount of 2,700,000 cubic feet in 24 hours, which is the quantity estimated as the maximum of the daily capacity of all the works heretofore in use. The increase of gas manufactured over that of the previous year, is 82,000,000 cubic feet, which, by a curious coincidence, is just about one million feet for each mile of main pipe added in the same time. A part of this increase was needed to meet the additional waste of gas incident to blowing out and filling the large extent of new mains, and making numerous connections; and a still greater loss caused by numerous leakages of mains from the giving way of the ground adjacent to culverts in course of construction; the latter cause having produced more serious loss of gas than has ever before been experienced.

It is quite evident that the large amount of new work in these various departments, carried on simultaneously at numerous remote points, must have required diligent and unremitting attention by the agents to whom it was entrusted; and it gives me pleasure to report the general good conduct and faithfulness of the officers and employees of the trust in the discharge of their various duties. A sense of justice demands a more special notice of two of these officers, upon whom has devolved the principal share of executive responsibility.

These are the Superintendent of Distribution, Mr. Jno. A. Miskey, and the First Assistant Engineer, Dr. Chas. M. Cresson. By the former, the numerous and widely distributed extensions of the street mains have been conducted, in conjunction with the superintendence of the public lighting, with a degree of diligence, perseverance and skill, meriting the highest praise. He has, without reserve,

devoted his attention and energies to these duties at all hours, both by day and night, as the work required, and it may be confidently asserted, that no similar series of gas mains has ever been laid down with more complete freedom from the defects to which such work is liable.*

Upon the second named officer have devolved duties no less important and arduous; he has been charged with the superintendence of the manufacture of gas in the First and Fifteenth Wards, the direction and supervision of all the new structures at both these stations, the daily arrangement of the storage and distribution of gas at all the stations, six in number; and the management of the entire system of telegraphic communication between the various offices of the entire establishment. In the performance of some of these duties he has been efficiently aided by the Second Assistant Engineer, Mr. Geo. L. Gay; but a large share of them are of a nature not to be delegated, but must necessarily devolve upon the officer directly responsible; who has been obliged to devote to them his personal attention during more than 100 hours of each week; and not seldom, for 20 hours continuously.

The example of a public officer giving his whole time and energies to the duties of his station, with the same zeal and devotedness as marks the administration of private affairs, is always entitled to public commendation, and I therefore esteem it a social duty to present this official testimonial to

* A remarkable proof of the perfection attainable in making the joints of gas mains has been afforded during the year, on the introduction of gas lights into Logan Square. The cast-iron pipes for this purpose were laid by the gas department nearly eight years ago; but the connection with the street pipes was not made until last summer, when the placing of the lamps was ordered by Councils. Upon testing the pipes by means of the prover's pump before introducing gas, they were found to be completely air tight, notwithstanding the fact, that in the interval since they were laid, the grounds have been filled up with earth so as to bury the pipes in some places eight or ten feet below the present surface.

these two instances of conscientious and complete fulfilment of every official function.

There yet remain to be completed some parts of the purifying apparatus, another coal store, and some additions to the capacity of gas storage, which has no longer sufficient surplus beyond the daily working in the winter months, for the requisite security and economy in these operations.

In making the latter improvements they may be so arranged, at suitable stations, as to promote very much the equal and regular supply to all parts of our widely extended system of distribution. Proper sites for these distributing stations may be obtained without much, if any, outlay of money, by the sale of real estate received from private gas companies, and investing the proceeds in other ground more eligibly located, if Councils authorize such sale or exchange.

Among the many subjects of a practical character that engage the attention of the gas engineer, none has given rise to more solicitude than the choice and management of gas meters; upon the accuracy and unvarying action of which the interests of both consumer and producer are in a great degree dependent; the former for his fair and uninterrupted supply of the commodity he pays for, and the latter for securing the due returns for his outlay of material and labor.

All these desirable results are obtained in great perfection from the instrument ordinarily known as the wet meter, so long as it is duly protected from frost and evaporative heat.

Various contrivances have been suggested and tried for securing the instrument from these injurious influences. The most general practice is the substitution, in part or in whole, of alcohol for water as the hydraulic seal; but while this guards against freezing, it gives rise to much inconvenience by reason of its rapid evaporation and want of specific gravity, which oftentimes cause a sudden obstruction

of the flow of gas at the moment when the stoppage is most inconvenient to the consumer.

A liquid free from these objections has long been desired, and after numerous experiments I had reason to suppose I had discovered it in the solution of neutral chloride of calcium. Accordingly, in the year 1843, I introduced this liquid into several hundred meters, for the purpose of giving it a fair, practical test. It did not freeze at the lowest natural temperature of our climate, and the strong affinity of the salt for water prevented rapid evaporation; while its specific gravity being greater than that of water, gave full support to the valve-float, and effectiveness to the hydraulic sealing.

The results of the first year of trial were entirely satisfactory, and the liquid was then used in all the exposed meters, with equally good results. But the expectations raised by two years of trial were dissipated at the end of the third year; by which time the metals of the meter showed such unmistakable evidences of the destructive action of the solution, as led to its abandonment.

More recently I have been giving trial to another liquid, with encouraging prospect of success. It is the inert substance obtained from fatty bodies, and known by the name of Glycerine; it is capable of resisting our lowest natural temperature, maintains its fluidity very pertinaciously, and is considerably heavier than water. Should it manifest no injurious action on the meter metals, or other defects, it will completely meet the wants of the instrument.

A more direct method of escaping these liquid imperfections, has been attempted in the so-called dry meter, working on the principle of the ordinary bellows, with diaphragms connected by flexible joints. A trial of these, on a large scale, during the years 1847 and 1848, revealed imperfections which impaired their trustworthiness so greatly as to require their entire disuse.

Within a few years sundry improvements have been made

in the construction of the dry meter, intended to remove the imperfections before mentioned, which seem to have sufficient merit to justify another trial. This has been in progress for nearly three years, with results, thus far, quite favorable, and if these shall be confirmed by longer and more extensive trial, the annoyanees that have so long attended this part of gas machinery, may be happily terminated.

The experiments reported last year, as being in progress upon various methods and materials proposed for the production of illuminating gas, have been continued during most of the year. The difficulties alluded to in my former report, have since been found constantly incidental to the peculiar process in which they then occurred; and whenever the mode of working has been varied in such way as to remove them, the diminution of useful product has reduced the economy below that of other processes previously in use. It is not intended to abandon these experiments, making such variations from time to time as may be suggested by farther experience, either in our own or other factories.*

In conclusion, I beg permission to express my grateful sense of the uniform confidence and courtesy it has been my good fortune to experience at the hands of the Board of Trustees during the whole term of our official connection; and farther, to bear testimony to the disinterested zeal, devotedness and intelligence with which this important public trust has been administered by them during nearly a quarter of a century.

Very respectfully,

JNO. C. CRESSON,

January 13*th*, 1860. *Engineer.*

* Since the presentation of the foregoing report, an anonymous pamphlet has been shown me, in which my name has been used without authority, to give apparent sanction to the statements therein made relative to Mr. Sanders's process for making hydro carbon or water-gas. To prevent any deception or misapprehension that may arise from this unauthorised use of my name, I am constrained thus publicly to disclaim all connection with the statements alluded to; some of which are entirely incorrect, and the whole are calculated to convey an impression quite the reverse of truth. J. C. C.

REPORT OF THE CASHIER.

To the Trustees of the Philadelphia Gas Works:

GENTLEMEN:—The accounts of the Cashier for the year 1859, now submitted for your examination, will show that the business of the Gas Works is steadily increasing, and that the profit realized is commensurate with that increase.

The net profits to be added to the Contingent Fund, for the year, are - - - - - -	$121,740	33
Amounts appropriated from the gross profits:		
For interest on Gas Loans, including those payable at the City Treasury, - - -	122,494	00
For the Sinking Funds of all the Gas Loans,	57,898	00
For eight per cent. on $450,000, the valuation of the Spring Garden, Moyamensing, West Philadelphia and Frankford Gas Works, -	36,000	00
For interest on the stock of the Southwark, Germantown, Manayunk and Richmond Gas Works, and appropriations to their several Sinking Funds, - - - - - -	23,194	13
	361,326	46
To which add the increase of the suspended debt, during the year, - - - - - -	1,786	40
	$363,112	86

CASH ACCOUNT.

DR.

Balance, January 1, 1859, - - -	$84,043 48

RECEIPTS IN 1859.

For sales of gas, coke, tar, lime, main and service pipes, rents, &c., at this office, -	939,096 78
At Spring Garden, - - - - -	167,569 81
Frankford, - - - - -	8,608 67
Germantown, - - - - -	18,734 85
Manayunk, - - - - -	6,607 61
For interest on Gas Loans, held for account of the Sinking Fund, - - - - -	10,566 00
For interest on City Loans, held as above,	15,902 00
City Loans redeemed, - - - -	4,400 00
Sales of Loan 10, - - - -	384,800 00
Interest on the price of the Kensington Gas Works, paid in advance, - -	740 86
	$1,641,070 06

CR.

PAYMENTS IN 1859.

For the construction and enlargement of the works, - - - - - - -	$85,949 45
For the extension of the street mains, -	184,654 75
Service and main pipes, meters, &c., -	99,627 43
Coal and other materials used in the manufacture of gas, wages of workmen, charge of the public lamps, &c., - - -	546,278 46
Repairs of the works, street mains, &c.,	103,015 62
Incidental expenses, salaries, &c., -	124,238 94
Interest on Loans, - - - -	49,501 97
Investments for the Sinking Fund, -	117,355 75
Amount carried forward,	$1,310,622 37

Amount brought forward,		$1,310,622 37
For amount paid City Treasurer, for interest on Loans 9 and 10, and appropriation to Sinking Fund, to redeem City Loan, -	81,392 00	
Interest on Gas Stocks, - - -	9,973 20	
Investments for the Sinking Funds of the Germantown, Richmond, Manayunk, and Southwark and Moyamensing Gas Co's.,	2,942 13	
Brokerage on sales of Loan 10, - -	622 50	
State Taxes on Loans and Stocks, -	11,445 50	
Cost of the Kensington Gas Works, -	90,717 79	
Balance on hand, - - - -	133,354 57	
		$1,641,070 06

STATE OF THE WORKS, JANUARY 1, 1860.

ASSETS.

Works, - - - - - -	$1,271,457 60
Street mains, - - - - -	837,427 65
Service pipes and meters, - - -	456,733 77
Public lamps, - - - - -	11,814 02
Cash, - - - - - -	133,354 57
Suspended debt, - - - -	15,344 41
Stocks belonging to the Sinking Fund, -	1,055,565 80
Coal on hand, - - - - -	84,735 10
Coke on hand, - - - - -	666 80
Rosin on hand, - - - - -	1,920 00
Wood on hand, - - - - -	4,203 00
Materials for repairs, - - - -	5,000 00
Amount carried forward,	$3,878,222 72

Amount brought forward,		$3,878,222 72
Due for gas sold, delivered and on hand, -		181,324 40
Due for coke, tar, &c., - - - -		13,000 00
Interest on City Loans, due Jan. 1, 1860, -		8,905 00
Wharf lot on the Schuylkill, - - -		6,000 00
Site of the new Gas Works, - - -		36,957 69
Spring Garden do. - - - -		300,000 00
Moyamensing do. - - - -		80,000 00
West Philadelphia do. - - - -		50,000 00
Frankford do. - - - -		20,000 00
Germantown do. - - - -		90,000 00
Richmond do. - - - -		16,500 00
South'k and Moy'g do. - - - -		113,240 00
Manayunk do. - - - -		81,000 00
Kensington do. - - - -		90,717 79
Stocks belonging to the Sinking Fund, in the hands of the City Treasurer, - - -		52,281 00
City Warrants, - - - - -		18,322 34
		$5,036,470 94

LIABILITIES.

Loans 1 to 9, - - -	$1,870,000	
10, - - -	384,800	
		2,254,800 00
Dividends unpaid, - - -		405 00
Interest on Gas Loans, - -		20,750 76
Interest on Gas Stocks, - -		10,617 40
For coals, repairs and materials used in the manufacture of gas, -		234,469 10
Sinking Fund, - - - -		1,109,912 20
Sinking Fund for the redemption of $450,000 of City debt, - -		52,281 00
Amount carried forward,		$3,683,235 46

Amount brought forward,	$3,683,235	46
Stockholders of the Germantown Gas Works, for the cost of said works, - - -	90,000	00
Stockholders of the Richmond Gas Works, for the cost of said works, - - - - -	16,500	00
Stockholders of the Southwark and Moyamensing Gas Works, for the cost of said works,	113,240	00
Stockholders of the Manayunk Gas Works, for the cost of said works, - - -	81,000	00
Sinking Fund of Germantown Gas Works, -	768	50
Do. Richmond do. -	184	98
Do. South'k & Moy'g do. -	1,046	84
Do. Manayunk do. -	1,063	13
State of Pennsylvania, for State Tax on Gas Stocks, - - - - - - -	426	55
City of Philadelphia, for works taken as per ordinance of March 20, 1855, - -	450,000	00
Profit and loss, for amount of suspended debt,	15,344	41
Contingent Fund, - - - - -	583,661	07
	$5,036,470	94

STATEMENT OF THE SINKING FUND.

1859.		
Jan. 1. Amount of Sinking Fund, -	$996,350	20
June 30. Six months' interest on $408,200 Gas Loans, at 6 per cent., -	12,246	00
Six months' interest on $96,800 Gas Loans, at 5 per cent., - -	2,420	00
Six months' interest on $177,100 Gas Loans, issued by the City Treasurer, at 6 per cent., -	5,313	00
Amount carried forward,	$1,016,329	20

1859.	Amount brought forward,	$1,016,329 20
June 30.	Six months' interest on $201,000 City Loans, at 6 per cent., -	6,030 00
	Six months' interest on $115,400 City Loans, at 5 per cent., -	2,885 00
	Six months' appropriation of 2 per cent. per annum on $975,000, the amount of Loans 1, 2, 3 and 9, - - - - -	9,750 00
	of 3 per cent. per annum on $125,000, amount of Loan 4,	1,875 00
	of 4 per cent. per annum on $770,000, amount of Loans 5, 6, 7 and 8, - - -	15,400 00
Dec. 31.	Six months' interest on $411,500 Gas Loans, at 6 per cent., -	12,345 00
	Six months' interest on $96,800 Gas Loans, at 5 per cent., -	2,420 00
	Six months' interest on $231,600 Gas Loans, (issued by the City Treasurer,) at 6 per cent., -	6,948 00
	Six months' interest on $201,000 City Loans, at 6 per cent., -	6,030 00
	Six months' interest on $115,000 City Loans, at 5 per cent., -	2,875 00
	Six months' appropriation of 2 per cent. per annum on $975,000, the amount of Loans 1, 2, 3 and 9, - - - - -	9,750 00
	of 3 per cent. per annum on $125,000, the amount of Loan 4, - - - -	1,875 00
	of 4 per cent. per annum on $770,000, the amount of Loans 5, 6, 7 and 8, -	15,400 00
		$1,109,912 20

The amount invested is as follows:

1859.				
Jan'y	1.	Cost of investments at this date,		$942,610 05
		Purchased during the year 1859:		
March	15.	$3,000 six per cent. City Loans, at 99¼ and brokerage, - -		2,985 00
	17.	$14,500 five per cent. City Loans, at 95½ and brokerage, - -		13,883 75
	18.	$2,500 six per cent. City Loans, at 99¼ and brokerage, - -		2,487 50
	18.	$800 five per cent. City Loans, at 96½ and brokerage, - -		774 00
May	20.	$26,000 five per cent. City Loans, at 93½ and brokerage, - -		24,375 00
	21.	$7,400 five per cent. City Loans, at 93½ and brokerage, - -		6,937 50
	21.	$7,400 five per cent. City Loans, at 90 and brokerage, - -		6,678 50
	21.	$1,500 five per cent. City Loans, at 95 and brokerage, - -		1,428 75
July	15.	$54,100 six per cent. Gas Loan 10, at par, - - - - - -		54,100 00
Sept.	27.	$400 six per cent. Gas Loan 10, at par, - - - - - -		400 00
Oct.	7.	$1,000 six per cent. Gas Loan 1, at par, - - - - - -		1,000 00
	28.	$2,300 six per cent. Gas Loan 3, at par, and brokerage, - -		2,305 75
				1,059,965 80
Jan'y	19.	Received for certificate of City Loan, which became due Jan. 1st, - -	$4,000 00	
July	12.	Received for certificate of City Loan, which became due July 1st,	400 00	
				4,400 00
				1,055,565 80
		Balance not invested,		54,346 40
				$1,109,912 20

STATEMENT OF THE SINKING FUND,

Directed to be accumulated and applied by the City Treasurer, as per ordinance of March 20th, 1855, for the redemption of $450,000 of city loans, being the estimated value of the Spring Garden, Moyamensing, West Philadelphia and Frankford Gas Works, placed in charge of the Trustees by said ordinance.

1859.

Jan'y 1.	Amount not invested, - - -		$5,678 00
June 30.	Cash paid City Treasurer for said fund,		4,500 00
	Int. on city loans, held for said fund,		1,323 00
Dec. 31.	Cash paid City Treasurer for said fund,		4,500 00
	Int. on city loans, held for said fund,		1,497 00
			$17,498 00
April 1.	By investment in city loans,		
	$5,700 six per cent, cost	$5,671 75	
Aug. 16.	5,800 " " "	5,785 50	
			11,457 25
			$6,040 75
	Aggregate of investments for the fund, $49,900, in certificates of six per cent. city loans, which cost, - -		$46,240 25
	Balance in hands of City Treasurer, not invested, - - - -		6,040 75
			$52,281 00



CITY AND GAS LOANS BELONGING TO THE SINKING FUND, JANUARY 1, 1860.

Six per cent. city loans:

Redeemable in	1861,	$2,000
	1864,	2,000
	1868,	400
	1869,	600
	1870,	600
	1871,	2,400
	1872,	300
	1873,	5,000
	1874,	5,300
	1876,	13,200
	1877,	3,600
	1878,	1,700
	1879,	3,100
	1880,	1,000
	1881,	2,700
	1882,	3,000
	1883,	1,400
	1884,	9,900
	1885,	14,800
	1886,	56,000
	1887,	2,700
	1888,	12,000
	1889,	14,000
	1890,	8,100
	1891,	5,400
	1892,	24,400
	1893,	4,400
	1904,	1,000
Amount carried forward,		$201,000

Amount brought forward, -		$201,000 00
Six per cent. gas loans:		
No. 3, redeemable in 1861,	$38,800	
" 1, " 1862,	12,200	
" 2, " 1863,	58,100	
" 5, " 1868,	36,100	
" 6, " 1869,	14,100	
" 7, " 1870,	66,100	
" 8, " 1872,	186,100	
		411,500 00
Six per cent. gas loans:		
No. 9, redeemable in 1885,	$177,100	
" 10, " 1883,	54,500	
		231,600 00
Five per cent. city loans:		
Redeemable in 1860,	$6,600	
1861,	3,600	
1862,	17,700	
1863,	33,400	
1864,	500	
1865,	9,900	
1867,	4,900	
1868,	6,400	
1869,	7,300	
1870,	9,700	
1871,	5,200	
1872,	7,300	
1873,	2,200	
1874,	300	
		115,000 00
Five per cent. gas loan:		
No. 4, redeemable in 1866,		96,800 00
		$1 055,900 00
The cost of the above was, - -		$1,055,565 80

STATEMENT OF THE PROFIT AND LOSS ACCOUNT FOR 1859.

Jan'y 1.	Amount due for coals, materials, and repairs chargeable to the manufacture of gas, - - - - -	$242,042	28
Dec. 31.	Sales of gas, coke, tar, lime, &c., and rents, - - - - - -	1,134,447	28
	Stock of coal on hand, - - -	84,735	10
	" coke, " - - -	666	80
	" rosin, " - - -	1,920	00
	" wood, " - - -	4,203	00
	Materials for repairs, - - -	5,000	00
	Due for coke, lime, tar, &c., - -	13,000	00
	Due for gas, - - - - - -	181,324	40
	Received interest on amount of purchase of Kensington Gas Works,	740	86
	Suspended debt, Jan. 1, 1860, -	15,344	41
		$1,683,424	13
Jan'y 1.	Amount of stock on hand, and debts due to the works at this time, -	$298,128	51
Dec. 31.	Payments for the manufacture of gas, coal, and other materials, and wages, including the cost of public lighting, - - - - - -	546,278	46
	Repairs of the works, street mains, meters and service pipes, - -	103,015	62
	Incidental charges, including the salaries of officers and clerks, -	124,238	94
	Due for coals, repairs and materials, used in the manufacture of gas, and for the public lighting, -	234,469	10
	Paid brokerage on sales of loan 10,	622	63
	Suspended debt, Jan. 1, 1859, -	13,558	01
		$1,320,311	27
	Balance, being the profits of the year,	363,112	86
		$1,683,424	13

From the profits there have been the following appropriations:

For interest on gas loans, payable at the office of the Trustees, - - - - -	$80,950 00
For interest on gas loans 9 and 10, payable at the City Treasury, - - - - -	41,544 00
For the Sinking Fund of gas loans 1 to 9, -	54,050 00
For the Sinking fund of gas loan 10, paid to the City Treasurer, - - - - - -	3,848 00
For eight per cent. on $450,000, paid to the City Treasurer, per ordinance of March 20, 1855, - - - - - - - - - -	36,000 00
For interest and appropriation to the Sinking Funds of Southwark, Germantown, Manayunk and Richmond Gas Works, - -	23,194 13
	$239,586 13
Balance beyond the interest on loans, city debt, gas stocks, and appropriation to the several Sinking Funds, - - - - -	123,526 73
	$363,112 86

The above balance of - -	$123,526 73	
Less the increase of suspended debt during the year 1859,	1,786 40	
Leaves the sum of - - - for the increase of the Contingent Fund.		$121,740 33

STATEMENT OF THE CONTINGENT FUND.

1859.		
Jan. 1.	Amount of the fund, - -	$461,920 74
Dec. 31.	Increase during the year, as per the profit and loss account, -	121,740 33
		$583,661 07

The amount raised under various ordinances for the construction and enlargement of the works, for extraordinary repairs and renewals, and for working capital, has been, to January 1st, 1860:

Loans, - - - - -	$2,254,800 00
City of Philadelphia, for works, per ordinance of March 20, 1855, - -	450,000 00
Contingent Fund, derived from profits, -	583,661 07
Stock of Germantown Gas Company, -	90,000 00
" Richmond " -	16,500 00
" Southwark & Moyamensing Gas Company, - - -	113,240 00
" Manayunk Gas Company, -	81,000 00
	$3,589,201 07

The amount expended has been:

Construction of works, - - -	$1,271,457 60
Street Mains, - - - -	837,427 65
Service pipes and meters, - -	456,733 77
Public lamps, - - - -	11,814 02
Wharf lot on the Schuylkill, - -	6,000 00
Site of the Gas Works, First Ward, -	36,957 69
Amount carried forward, - -	$2,620,390 73

Amount brought forward, -	$2,620,390 73
Spring Garden Gas Works, - -	300,000 00
Moyamensing " - - -	80,000 00
West Philadelphia " - - .	50,000 00
Frankford " - - -	20,000 00
Germantown " - - -	90,000 00
Richmond " - - -	16,500 00
Southwark " - - -	113,240 00
Manayunk " - - -	81,000 00
Kensington " - - -	90,717 79
	$3,461,848 52

The liabilities of the Trust, January 1st, 1860, for current business, are as follows:

Due for coals, repairs, and materials used in the manufacture of gas, - - -	$234,469 10
Due for works, street mains, service pipes and meters, - - - - -	139,800 87
Due for interest and dividends, - -	31,773 16
Due to Sinking Fund, for balance of appropriation to said fund, - - - -	54,346 40
Due to the Sinking Funds of the several Gas Works, - - - - -	3,063 45
Due to State of Pennsylvania, for tax on Gas stocks, - - - -	426 55
	$463,879 53

The means to meet said liabilities are:

Cash in hand, - - - -	$133,354 57
Interest due Jan. 1st, 1860, on city loans, -	8,905 00
Debts due for gas, and stock of coals and materials on hand, - - - -	290,849 30
Amount of loan 10th, unsold, - -	115,200 00
	$548,308 87

The transfer of the business of the Manayunk Gas Works to this Trust, took place on the 1st of April, 1859, and that of the Kensington Gas Works, on the second of January of the present year.

The amount that was carried to the credit of the Sinking Fund, at the close of the year 1859, has since been invested in the Gas Loan 10th.

Very respectfully,

Your ob't serv't,

WM. FENNELL, *Cashier.*

WORKS.		STREET MAINS.		SERVICES.	
Wages of laborers and mechanics...	$17,268 22	Wages of men employed in laying mains	$35,193 82	Wages of men employed in laying pipes and setting and fitting up meters.....	$13,754 85
Castings and machinery.....	27,006 27	Main pipes.....	77,842 61		
Stone and Mason work	14,229 14	Lead.....	17,212 00	Meters.....	32,623 45
Bricks and Bricklaying.....	4,876 47	Castings and iron work.....	16,297 09	Services & meters refunded.....	29,891 79
Carting and digging.....	3,136 10	Paving	12,403 17	Stop Cocks.....	8,738 27
Meters.....	3,120 52	Main pipes refunded.....	12,383 14	Tubing.....	6,149 66
Valves, stops and tubing.....	3,089 76	Carting, car hire and tolls.	4,936 43	Paving.....	4,410 60
Bulkhead on River Front	2,888 48	Digging trenches..	4,481 10	Castings,.....	1,921 37
Wrought iron and roof work.....	2 546 07	Bricks, masonry & lime.....	796 20	Lead Pipe.....	960 51
Slates.....	2,017 56	Lumber turning & carpenter work	636 25	Lumber.....	403 20
Lumber, turning &c.....	1.833 52	Conveyancing and surveying.....	573 37	Iron.....	289 64
Extension of telegraph	1,500 00	Ship Chandlery...	503 85	Hardware.....	239 12
Lime, sand and cement.....	768 22	Valves.....	450 00	Tin and Copper	101 96
Oils, paints and chemicals.....	569 80	Tin Work.....	208 16	Pumps.....	50 10
Hardware, nails & bolts.....	429 25	Hardware & smith work.....	140 52	Examining meters	43 75
Real Estate.....	350 00	Pressure registers	137 75	Carting.....	34 94
Scale and gauges...	97 37	Pumps.....	127 91	Gas fixtures.....	14 52
Ship chandlery.....	72 87	Maps.....	107 50		
Spelter & brands...	48 76	Freight and wharfage.....	98 25		
Paper and tracing	48 72	Tallow	66 00		
Lamps and posts...	52 35	Advertising.....	59 63		
	$85,949 54		$184,654 75		$99,627 43

GAS.			REPAIRS.			INCIDENTALS.		
Wages of stokers and men employed in retort and purifying houses, manufacturing gas, and wheeling coke, coal, &c.	$107,282	71	Wages of mechanics and laborers engaged in the repair of works, street mains and services	$24,675	86	Wages of clerks, men employed in inspection of fittings and meters, and taking statements for bills, storing coal and coke at the works measuring coke, tar, &c., and attending the public lamps	$114,880	29
Coal	300,868	31	Castings	43 317	34	Fluid, filling and trimming the public lamps	25,219	49
Gas bought	30,649	63	Fire bricks & tiles,	9,505	47	Rents	12,456	48
Carting, towing & hoisting	12,846	50	Meters	2,604	88	Carting coke, &c.	7,682	65
Freight on coals	8,520	52	Lumber, turning and carpenter work	2,446	40	Lamps and posts	7,364	24
Wood	8,090	66	Tubing, plumbing, &c.	2,297	46	Printing, stationery and advertising	4,104	95
Oyster shells	3,996	04	Iron	2,173	85	Horse and mule keep and hire	3,697	77
Lime	266	30	Wagons, harness & repairs	1,865	83	Lanterns & repairs,	3,036	55
Coal and gas at Manayunk	226	00	Pumps and hose	1,834	77	Alcohol and glycerine	1,691	93
			Machine work	1,684	02	Tubing, stops, &c.	1,346	45
			Hardware, nails & tools	1,482	69	Carriage hire and sundries for Board and Councils	1,200	47
			Oils, paints, &c.	1,444	97	Taxes and water rents	1,095	92
			Bricks, cement, &c.	1,371	02	Paints, drugs, &c.,	808	64
			Stop Cocks	1,121	49	Barrels and ice	557	84
			Carting	764	15	Damages and medical services	444	62
			Slating, tinwork & roofing	701	55	Smithwork & coal,	435	00
			Mason work	500	00	Locating lamps	376	00
			Repairing wharf	478	64	Car hire and toll	345	58
			Birch, brushes, & brooms	406	52	Matches	332	32
			Smith work, furnaces & boilers	357	46	Groceries & soap	176	70
			Paving	332	88	Drawing and conveyancing	169	52
			Matting and carpeting	285	44	Mule	160	00
			Clay, sand & lime,	210	04	Reports of lighting	146	00
			Coal and Coke barrows	192	75	Paving	128	50
			Repairing scales	182	25	Spelter	86	39
			Barrels & buckets,	166	25	Pressure register	84	50
			Belting & leather,	154	17	Telegraph cups	78	00
			Cotton waste	110	39	Sundries	313	93
			Ship chandlery	102	45			
			Rubber goods	98	82			
			Sundries	146	81			
	$472,746	67		$103,015	62		$188,420	73

CITY REGISTRY.

DATE, 1859.	Applications.	Removals and Discontinuances	PRIVATE LIGHTS.		PUBLIC LIGHTS.		
			Added.	Total.	Streets.	Market Houses.	Squares.
‡To January 1st	* 71,694	41,741	189,971	374,446	3,902	97	91
January.....	446	390	1,611	376,057	31		
February.....	467	413	1,378	377,435	21		
March.....	1,117	661	1,684	379,119	23	2	28
† April.....	1,195	633	7,828	386,947	127		
May.....	1,087	555	4,952	391,899	30		21
June	982	498	4,633	396,532	31		
July.....	756	380	4,148	400,680	52		
August.....	916	463	4,121	404,801	27		
September.....	1,142	668	4,698	409,499	23		
October	1,244	714	6,055	415,554	97		
‡ November.....	3,880	571	16,028	421,582	77		
December.....	776	435	4,645	436,227	426	16	
Total.....	14,008	6,381	61,781		965	18	49
Brought down.....	71,694	41,741	189,971		3,902	97	91
Grand Total.....	85,702	48,122	251,752	436,227	4,867	*72	140

* During the Year, 18 lamps have been added in Market Houses, and 43 discontinued.
† Including those received from Manayunk Gas Company.
‡ Including those received from Kensington Gas Company.
‡ Including those transferred from private Gas Companies.

METERS SET.

DATE, 1859.	Services Laid.	3 Light.	5 Light.	10 Light.	20 Light.	30 Light.	45 Light.	60 Light.	100 Light.	150 Light.	500 Light.	1500 Light	TOTAL.
To January 1st.....	28,897	15,068	8,730	3,365	1,125	247	127	46	69	1	4	0	28,782
January	58	13	13	21	5	3	1	1			1		58
February	52	14	16	13	9								52
March.....	151	54	44	36	16	1							151
* April.....	820	510	180	78	36	9	2	3	1			1	820
May.....	511	282	149	54	21	3	1				1		511
June.....	509	305	134	47	17	6							509
July.....	376	210	113	43	9		1						376
August.....	449	269	114	36	22	3	1	1	3				449
September.....	435	279	95	34	22	2	2	1					435
October.....	517	291	120	61	33	8	2	1	1				517
† November.....	3,227	2,926	169	63	50	8	5	2	4				3,227
December.....	424	279	66	62	9	4	1	1	2				424
Total.....	7,529	5,432	1,213	548	249	47	16	10	11		2	1	7,529
Brought down...	28,897	15,068	8,730	3,365	1,125	247	127	46	69	1	4	0	28,782
Grand Total.....	36,426	20,500	9,943	3,913	1,374	294	143	56	80	1	6	1	36,311

* Including those received from Manayunk Gas Company.
† Including those received from Kensington Gas Company.

MAIN PIPES LAID IN STREETS.

DATE, 1859.	1½ inch.	2 inch.	3 inch.	4 inch.	6 inch.	8 inch.	10 inch.	12 inch.	16 inch.	20 inch.	TOTAL.
To January 1st.....	630	131,957	541,853	489,282	103,774	57,421	17,480	21,776	11,138	28,137	1,848,448
January.....		162	71	81							314
February		330		95							425
March.....		132	3,893	1,815							5,840
* April.....		6,668	26,553	10,044	2,421	8,510					49,196
May	98	724	12,911	11,770	2,555						28,058
June.....	138		16,829	7,604	9,191						33,762
July.....		144	23,240	8,405	4,289	7,126					53,204
August.....		3,768	24,373	8,251	7,934	18					44,339
September.....		1,934	8,168	16,838	14,262	2,006					43,208
October		3,502	19,462	11,456	10,919						45,339
† November.....		936	102,297	14,615	5,468	4,518	2,614	2,570			133,018
December.....		306	12,918	6,498	1,002						20,719
Total.....	236	18,606	250,715	92,467	58,041	17,178	2,614	2,570			442,422
Brought down ...	630	131,957	541,853	489,282	103,774	57,421	17,480	21,776	11,138	28,137	1,848,448
Grand Total.....	866	150,563	792,568	581,749	161,815	74,594	20,094	24,346	11,138	28,137	1,790,866

* Including those received from Manayunk Gas Company.
† Including those received from Kensington Gas Company.

REPAIRS OF SERVICES, &c.

	Services Renewed.	Stop Cocks Renewed.	Stop Cock Boxes Renewed.	Rims and Covers Renewed.
January	3	4	12	24
February	3	4	14	17
March	7	6	155	19
April	6	8	218	21
May	9	8	175	24
June	10	7	257	21
July	8	11	383	19
August	9	15	287	14
September	5	7	90	12
October	7	7	14	7
November	6	2	26	16
December	5	6	17	12
Total	78	85	1,648	206

NUMBER OF LAMPS UNDER THE CARE OF THE DEPARTMENT OF PUBLIC LIGHTING, JANUARY 1st, 1860.

	Gas.	Fluid.
* City—including Moyamensing, Southwark, West Philadelphia, Spring Garden, Kensington, Richmond, Germantown, Manayunk, Frankford and Nicetown	4,962	706
† Northern Liberties	397	38
	5,359	744
	744	
Total number	6,103	

* Supplied with Gas directly from City Works.

† Supplied with Gas by the Northern Liberties Gas Co.

ANNUAL REGISTRY OF CONSUMERS, AND PRIVATE AND PUBLIC LIGHTS.

DATE.	Applications.	Removals and Discontinuances.	Total Number of Consumers.	PRIVATE LIGHTS.		PUBLIC LIGHTS.			
				Added.	Total.	Streets	Market Houses.	Squares.	TOTAL.
1836	301	24	277	2,952	2,952	165			165
1837	497	108	666	3,862	6,814	136			301
1838	849	174	1,341	4,288	11,102	138		62	496
1839	946	300	1,987	5,380	16,482	162	18		676
1840	788	382	2,393	3,317	19,799	112	1		789
1841	874	493	2,774	4,387	24,186	13	8		810
1842	845	541	3,078	3,054	27,240	30			840
1843	986	635	3,429	3,418	30,658	59			899
1844	1,000	503	3,926	4,940	35,598	195			1,094
1845	1,147	629	4,444	5,754	41,852	112			1,206
1846	1,465	717	5,192	8,138	49,490	96			1,302
1847	1,869	887	6,174	12,987	62,477	84	10		1,396
1848	1,956	1,002	7,128	13,935	76,412	21			1,417
1849	2,191	1,180	8,139	18,050	94,462	74			1,491
1850	2,227	1,150	9,216	20,542	115,004	72	18		1,576
1851	2,529	1,339	10,406	21,616	136,620	124			1,700
1852	3,004	1,747	11,663	20,550	157,170	118			1,818
1853	3,280	1,954	12,989	25,432	182,602	87		28	1,928
1854	2,884	1,969	13,904	18,127	200,729	27			1,955
1855*	17,479	8,485	22,898	82,487	283,216	1,368	26		3,349
1856*	6,272	4,626	25,544	32,225	315,441	84			3,438
1857	5,504	4,744	26,304	17,046	332,487	68			3,501
1858*	11,801	8,152	29,953	41,959	374,446	562	21	6	4 090
1859*	14,008	6,381	37,580	61,781	436,227	965	18	49	5,079
Total	85,702	48,122		436,227		4,867	† 72	140	

* Including those received from private Gas Companies.
† During the year 1859, there were added 18 market lamps, and 43 discontinued.



STATEMENT OF METERS SET EACH YEAR.

DATE.	Services Laid.	METERS SET.										
		3 Light.	5 Light.	10 Light.	20 Light.	30 Light.	45 Light.	60 Light.	100 Light.	150 Light.	500 Light.	1500 Light.
1836.....	251	108	98	31	9	2	3					
1837.....	411	301	77	19	6	2	3		3			
1838.....	690	442	159	61	13	9	2	1	3			
1839.....	649	421	118	75	26	6	3					
1840.....	350	198	78	54	13	3	2		2			
1841.....	375	208	93	63	14	2						
1842.....	299	157	76	57	6	3						
1843.....	348	180	110	50	7	1						
1844.....	503	292	129	72	5	3	1		1			
1845.....	523	311	151	49	7	4		1				
1846.....	761	390	237	113	14	4	2	1				
1847.....	999	481	300	202	12	1	3					
1848.....	971	408	333	196	25	4	3	1	1			
1849.....	1,029	366	366	234	46	7	5	2	3			
1850.....	1,079	435	412	165	50	8	3	3	3			
1851.....	1,211	534	373	204	76	15	4	2	3			
1852.....	1,261	638	334	200	60	18	7	3	1			
1853.....	1,364	688	360	167	92	23	12	6	15	1		
1854.....	939	470	207	127	89	29	14	2	1			
1855 *.....	8,110	4,290	3,158	369	150	28	28	11	23			
1856 *.....	2,323	1,055	698	375	144	23	15	8	4		4	
1857.....	734	209	220	184	95	12	9	2	3			
1858 *.....	3,717	2,491	643	298	166	40	8	3	3			
1859 *.....	7,529	5,432	1,213	548	249	47	16	10	11		2	1
Total.....	36,426	20,500	9,943	3,918	1,374	294	143	56	80	1	6	1

* Including those received from private Gas Companies.

LENGTH OF MAINS LAID IN STREETS, EACH YEAR, IN LINEAL FEET.

DATE.	1½ inch.	2 inch.	3 inch.	4 inch.	6 inch.	8 inch.	10 inch.	12 inch.	16 inch.	20 inch.	TOTAL.
1836		2,310	15,951	10,184	4,018		9,140				41,603
1837		3,468	13,068	4,302	6,984						27,822
1838		150	15,660	14,409	9,036		27	10,881	2,340		52,503
1839		1,704	11,629	11,997	4,419	3,726					33,475
1840		222	1,674	576	261						2,733
1841		204	8,874	7,137	27						16,242
1842		324	6,831	3,483	360	774					11,772
1843		966	32,796	16,767	1,395	1,053					52,977
1844		30,696	38,655	23,555	2,358	3,663	891				99,818
1845	426	3,240	9,360	4,725	837						18,588
1846		10,734	9,855	8,442	378	2,070					31,479
1847		4,164	6,660	2,808	900	135					14,667
1848		1,734	7,578	3,897	1,458	477					15,144
1849		9,690	9,117	5,724	2,934	13,284	4,266	2,619	8,073	495	56,202
1850		6,666	9,513	6,345	2,718						25,242
1851		11,901	18,441	10,755	720	324					42,141
1852		18,864	19,710	14,958		1,359				6,867	61,758
1853		7,152	3,744	3,780	414				720	7,257	23,067
1854		678	1,026	828							2,532
1855*		3,271	202,958	173,289	36,378	16,997	8,151	8,276		8,014	452,334
1856*		1,956	19,941	16,596	7,286	3,834	5			504	50,122
1857		363	1,844	325	117	34					2,683
1858*	204	11,500	76,968	94,400	20,776	9,691					213,539
1859*	236	18,606	250,715	92,467	58,041	17,173	2,614	2,570			442,422
Total	866	150,563	792,568	531,749	161,815	74,594	20,094	24,346	11,133	23,137	1,790,865

* Including pipes received from private Gas Companies.

STATEMENT OF GAS DELIVERED TO PUBLIC AND PRIVATE LIGHTS TO DECEMBER 81, IN EACH YEAR, BY THE WORKS IN THE FIRST AND NINTH WARDS.

YEAR.	Public Lights.	Private Lights.	Spring Garden.	Southwark.	Moyamensing.	West Philadelphia.	Germantown.	Used at Offices, Shops, and Works. Loss by Leaking, &c.	Made at Works.
1836	978,812	4,752,740						749,748	6,481,300
1837	1,397,687	14,454,891						1,226,122	17,078,700
1838	3,013,546	22,366,004						1,977,450	27,357,000
1839	6,280,654	30,658,145						2,534,201	39,473,000
1840	8,028,818	34,874,380						2,506,802	45,410,000
1841	10,208,180	39,648,000						1,415,820	51,272,000
1842	13,292,000	36,596,830						922,170	50,811,000
1843	12,985,851	34,579,900						1,324,249	48,890,000
1844	13,608,356	40,022,800						1,152,844	54,784,000
1845	17,373,798	46,702,800						926,402	65,003,000
1846	19,164,106	55,219,800	163,400					906,694	75,454,000
1847	19,122,293	68,071,600	2,507,100					1,846,007	91,547,000
1848	19,924,700	78,921,350	6,817,000					1,109,950	106,773,000
1849	24,524,950	96,247,100	10,718,200	2,322,800	195,800			1,505,150	135,509,000
1850	28,482,800	131,258,400	17,650,600	3,457,800	417,900			748,500	182,016,000
1851	36,524,625	145,114,200	7,039,800	5,279,000	1,254,700			5,629,675	200,842,000
1852	38,306,250	162,093,100		5,927,900	2,892,400	354,600		6,641,750	216,216,000
1853	37,406,625	191,679,750		10,458,200	5,810,700	2,765,720		1,806,005	249,427,000
1854	40,177,874	209,334,300		14,989,200	8,304,000	6,501,800		2,916,826	282,224,000
1855	58,319,350	237,250,165		18,099,000	7,660,600	10,886,200		16,212,085	347,777,400
1856	80,935,200	304,961,250		18,992,500			7,962,000	29,853,050	434,742,000
1857	84,312,484	318,928,400		20,860,000			7,962,000	37,004,116	469,067,000
1858	89,850,229	328,610,550		24,678,200			6,492,000	35,577,021	480,208,000
Total,	664,219,188	2,627,846,455	44,891,100	125,064,600	26,536,100	20,008,320	14,454,000	155,842,637	3,678,362,400

STATEMENT OF GAS

Paid for in each month of the year, made in the First, Ninth, Fifteenth and Twenty-first Wards, being the amount of bills, as per meters, to the first of the month.

1859.	FEET OF GAS CONSUMED AT PRIVATE HOUSES.	PUBLIC LAMPS.	TOTALS.
January	38.369.000		38.369.000
February	40.962.100		40.962.100
March	49.987,700		49.987.700
April	34.497,900		34.497,900
May	31.119,500		31.119.500
June	37.286,000		37.286.000
July	20,537,800		20.537.800
August	16.553.000		16.553.000
September	22,138.800		22.138.800
October	20 752.500		20.752.500
November	28,038.400		28.038,400
December	49.176.300	98,900.345	148.076,645
Total	389.419.000	98,900.345	488,319,345
Inventory of stock of Gas delivered and on hand : January 1st, 1860		90,662.200	
January 1st, 1859		84,853.200	5,809,000
			494,128.345

STATEMENT OF GAS

Made at all the Works managed under the Trust, and of that delivered to Public and Private Lights, from January 1st, to December 31st, 1859.

YEAR.	Made at Works in First, Ninth, Fifteenth and Twenty first Wards.	PUBLIC LIGHTS.	PRIVATE LIGHTS.	Used at the Works and Office of the Trust. Loss by Leakage.
1859	562,110,000	98,900,345	395,228,000	67,981,655
Made in previous years	3.678,362.400			
Total	4,240,472,400			

A COMPLETE LIST

OF THE

TRUSTEES OF THE PHILADELPHIA GAS WORKS,

FROM THE COMMENCEMENT

IN THE ORDER OF THEIR APPOINTMENT.

Elections by Select Council, March 26th, 1835.

Benjamin W. Richards, John R. Latimer,	for one year.
A. D. Bache, W. H. Keating,	for two years.
J. P. Wetherill, H. M. Zollickoffer,	for three years.

Elections by Common Council.

John Farr, R. M. Huston,	for one year.
Frederick Fraley, Ephraim Haines,	for two years.
M. W. Baldwin, Thomas Cave,	for three years.

B. W. RICHARDS, *President.*
SAMUEL V. MERRICK, *Engineer.*
BENJAMIN MATTHIAS, *Secretary.*

B. W. Richards resigned the Presidency June 20th, 1835.

Dr. R. M. Huston elected President July 10th, 1835.

Dr. J. K. Mitchell elected July 9th, 1835, in place of B. W. Richards, resigned.

John Siter elected January 28th, 1836, in place of J. K. Mitchell, resigned.

Benjamin Matthias, Secretary, resigned March, 1836.

Frederick Brown elected January 19th, 1837, in place of A. D. Bache, whose term of service expired.

Samuel V. Merrick, Engineer, resigned February, 1837.

Alexander Ferguson elected November 23d, 1837, in place of Ephraim Haines, deceased.

John Wiegand elected April 12th, 1838, in place of H. M. Zollickoffer, resigned.

A. D. Bache, elected September 27th, 1838, in place of John Sitzer, resigned.

George Handy elected January 30th, 1839, in place of J. R. Latimer, resigned.

Thomas Cave elected President in place of Dr. R. M. Huston, resigned June 28th, 1839.

Charles Gilpin elected January 14th, 1841, in place of W. H. Keating, deceased.

Thomas S. Smith elected January 28th, 1841, in place of M. W. Baldwin, whose term of service expired.

Dr. G. H. Burgin elected January 20th, 1842, in place of George Handy, whose term of service expired.

Isaac Myer elected January 20th, 1842, in place of R. M. Huston, whose term of service expired.

Samuel Norris elected January 19th, 1843, in place of Alexander Ferguson, whose term of service expired.

Isaac Barton elected January 18th, 1844, in place of Thomas S. Smith, whose term of service expired.

John C. Davis elected November 7th, 1844, in place of A. D. Bache, resigned.

Frederick Fraley elected President, in place of Thomas Cave, deceased, March 28th, 1845.

Joseph S. Lovering elected April 10th, 1845, in place of Thomas Cave, deceased.

John Trucks elected June 19th, 1845, in place of Charles Gilpin, resigned.

Jacob E. Hagert elected January 29th, 1846, in place of Frederick Brown, whose term of service expired.

Frederick Brown elected March 25th, 1846, in place of John Farr, deceased.

M. W. Baldwin elected October 28th, 1847, in place of John Trucks, resigned.

John Agnew elected December 23d, 1847, in place of J. E. Hagert, resigned.

William Morris elected January 20th, 1848, in place of J. C. Davis, whose term of service expired.

John F. Gilpin elected January 20th, 1848, in place of G. H. Burgin, whose term of service expired.

Dr. G. H. Burgin elected April 6th, 1848, in place of J. S. Lovering, resigned.

John C. Davis elected April 13th, 1848, in place of W. Morris, resigned.

James Traquair elected January 18th, 1849, in place of Frederick Brown, resigned.

John Lindsay elected December 20th, 1849, in place of J. P. Wetherill, resigned.

Lewis Cooper elected December 20th, 1849, in place of J. C. Davis, resigned.

B. M. Feltwell elected January 31st, 1850, in place of Isaac Barton, resigned.

E. Y. Farquhar elected March 15th, 1850, in place of J. Lindsay, resigned.

John C. Davis elected October 24th, 1850, in place E. Y. Farquhar, resigned.

Charles Lennig elected October 24th, 1850, in place of John Agnew, resigned.

Benjamin Gerhard elected January 30th, 1851 in place of Isaac Myer, resigned.

E. A. Souder elected January 29th, 1852, in place of M. W. Baldwin, resigned.

Samuel R. Brick elected January 25th, 1855, in place of E. A. Souder, whose term of service expired.

Wm. J. P. White elected January 25th, 1855, in place of Charles Lennig, whose term of service expired.

John Manuel elected January 25th, 1855, in place of Samuel Norris, whose term of service expired.

Wm. G. Flanagan elected January 25th, 1855, in place of Frederick Fraley, whose term of service expired.

John Wiegand elected President January 26th, 1855, in place of Frederick Fraley, whose term of service expired.

Frederick Fraley elected Trustee August 2d, 1855, in place of John Wiegand, resigned.

Dr. G. H. Burgin elected President August 24th, 1855, in place of John Wiegand, resigned.

Paul J. Field elected January 31st, 1856, in place of John C. Davis, whose term of service expired.

John M. Odenheimer elected January 31st, 1856, in place of Benjamin M. Feltwell, whose term of service expired.

G. W. Biddle elected June 26th, 1856, in place of W. G. Flanagan, resigned.

Anthony Miskey elected January 29th, 1857, in place of John F. Gilpin, whose term of service expired.

Andrew C. Craig elected January 29th, 1857, in place of James Traquair, whose term of service expired.

William M. Reilly elected January 28th, 1858, in place of Samuel R. Brick, whose term of service expired.

Harry Connelly elected January 28th, 1858, in place of W. J. P. White, whose term of service expired.

William B. Small, M. D., elected January 28th, 1858, in place of John Manuel, whose term of service expired.

Charles Leveret Wolff elected January 28th, 1858, in place of Geo. W. Biddle, whose term of service expired.

Andrew C. Craig elected President February 12, 1858, in place of Dr. G. H. Burgin, whose term of service expired.

Conrad S. Grove elected January 27th, 1859, in place of John M. Odenheimer, deceased.

Edward H. Trotter elected January 27th, 1859, in place of Dr. Geo. H. Burgin, whose term of service expired.

William L. Hirst elected January 28th, 1859, in place of Paul J. Field, whose term of service expired.

Charles E. Graeff elected January 26th, 1860, in place of Anthony Miskey, whose term of service expired.

Paul J. Field elected January 26th, 1860, in place of Lewis Cooper, whose term of service expired.

John Manuel elected January 26th, 1860, in place of Benjamin Gerhard, whose term of service expired.

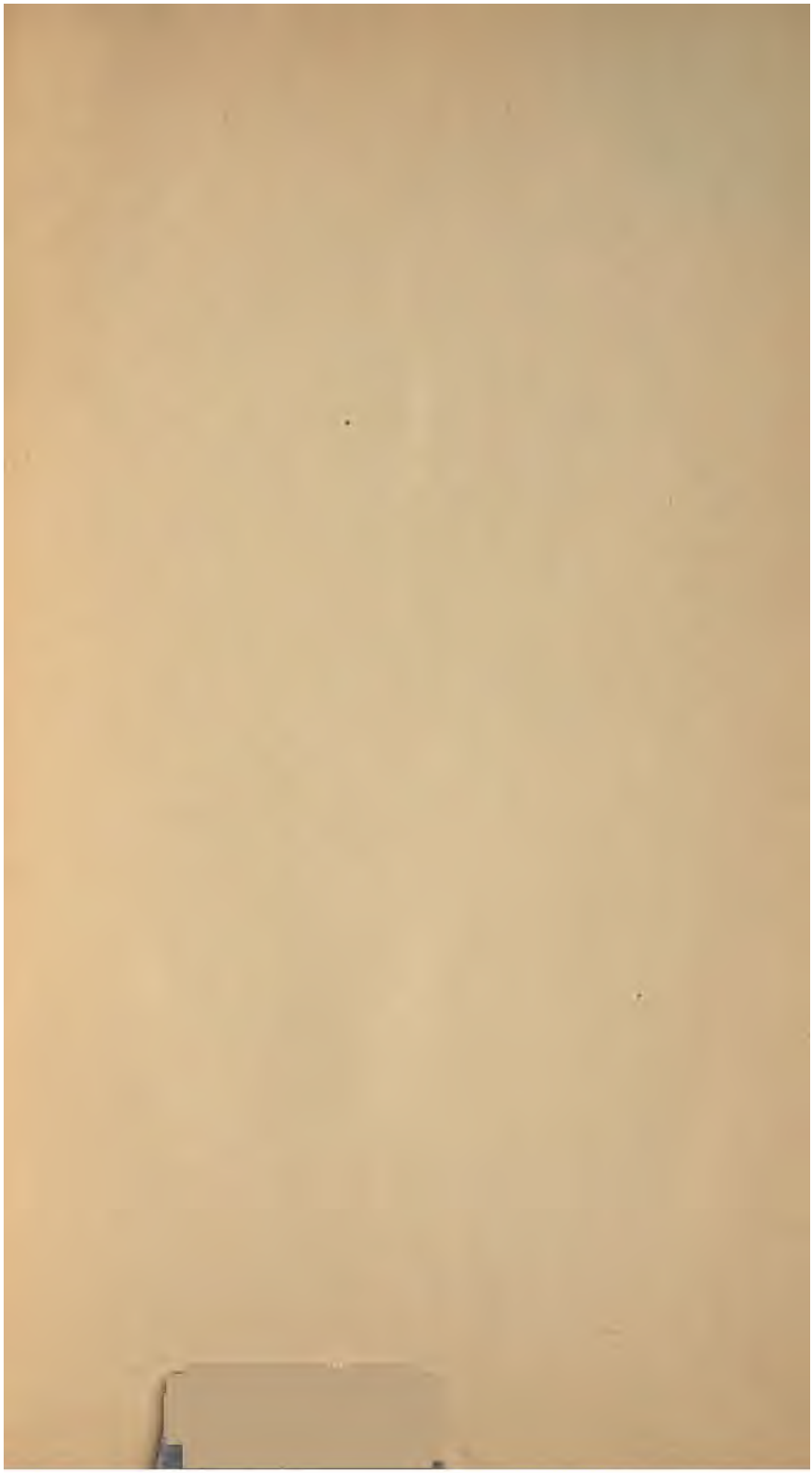
T. Chalkley Wood elected January 26th, 1860, in place of Andrew C. Craig, whose term of service expired.

Edward H. Trotter elected President January 27th, 1860, in place of Andrew C. Craig, whose term of service expired.



PHILADELPHIA GAS WORKS.

J. C. Cresson, Engineer.





Retort Houses.
250 feet long, 56 feet wide, 60 feet high.

PHILADELPHIA GAS WORKS.

J. C. Cresson, Engineer.

Telescope Gasholder.
160 feet diameter, 95 feet high.





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